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MASSACHUSETTS

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Massachusetts Department of Commerce and Development
State Office Building, Government Center
100 Cambridge Street, Boston, Mass. 02202
Phone: 727-3206

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T. W. SCHULENBERG
COMMISSIONER

The Commonwealth of Massachusetts

Department of Commerce and Development

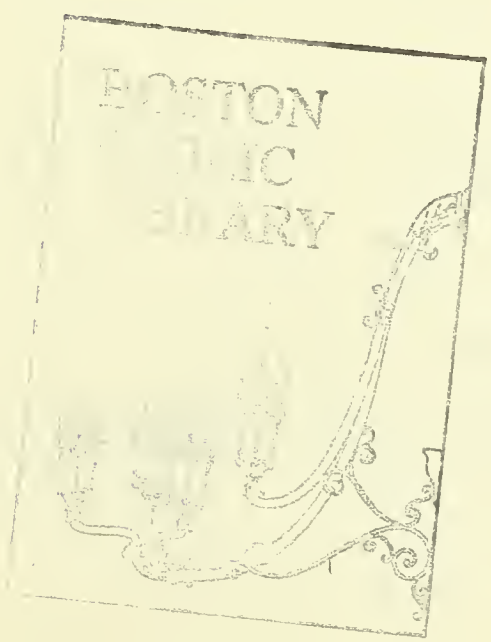
State Office Building
100 Cambridge Street, Boston 02202

727-3221

January 1967

Herein are a few basic facts about the Commonwealth of Massachusetts. They are intended to indicate some general plant location features. Our files of detailed supplementary information and intimate community knowledge are readily available to explore confidentially any interest you may have in any type of business endeavor in the Commonwealth.

Please do not hesitate to call on us at any time this Department may be of service.



T. W. Schulenberg
Commissioner

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January 1967

MASSACHUSETTS

IN BRIEF -

with 2.9% (5,149,834) of the National POPULATION (Ninth) and
0.2% (8,093 square miles) of the National AREA (Forty-fifth)

1. Ranks FIRST in LABOR STABILITY among the ten leading industrial states over a fifteen-year period.

2. Includes RESEARCH as a MAJOR INDUSTRY with 931 Industrial Research Laboratories employing over 31,000 scientists, engineers and technicians.

3. In ENGINEERING DEGREES alone, Massachusetts ranked fourth in Ph. D's granted (188), third in Masters (860) and seventh in B. S. (1,709) in 1964.

4. Has $3,050 income per capita for 1965. (U. S. $2,746).

5. Welcomed more than 570 NEW FIRMS along the World-Famous Industrial Highway--Route 128.

6. Has 91,441 people employed in ELECTRICAL MACHINERY manufacturing (the LARGEST manufacturing employer in the Commonwealth).

7. Ranks EIGHTH in MANUFACTURING EMPLOYMENT (654,000) May 1965.

8. Has unusual manufacturing DIVERSITY with

   1,094 Apparel, 1,235 Printing and Publishing, 1,323 Machinery
   1,040 Fabricated Metals, 907 Foods, 618 Leather, 473 Textiles,
   443 Chemical, 406 Furniture and Fixtures, 370 Lumber and Wood
   515 Electrical Machinery, 345 Paper and 258 Primary Metal Firms

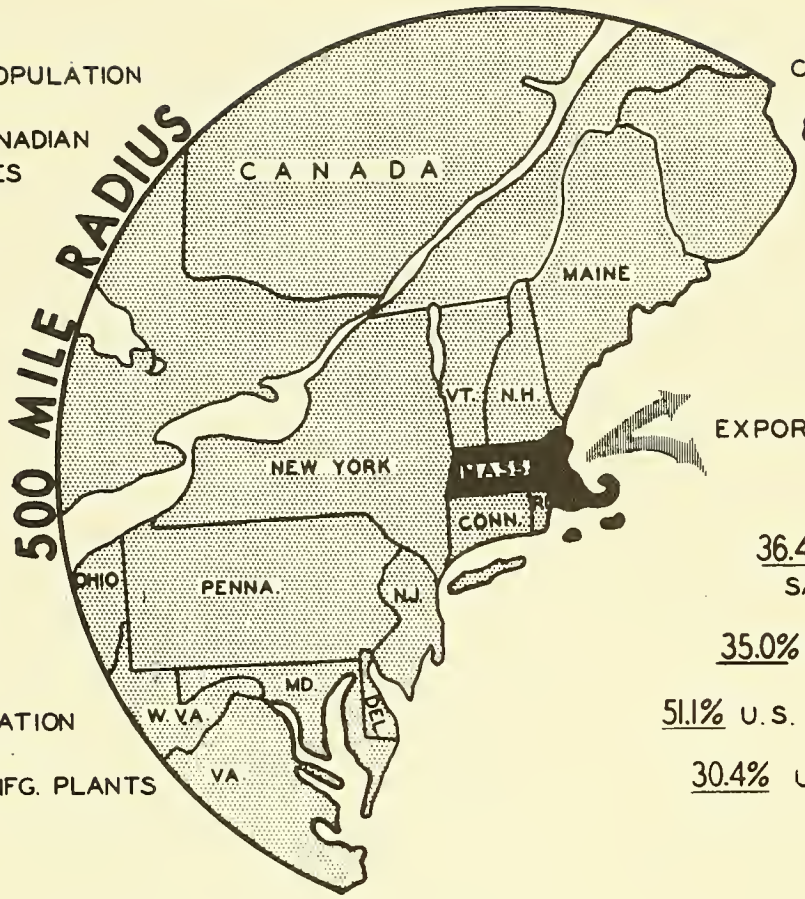
9. Ranks TENTH in VALUE ADDED BY MANUFACTURE ($6,340,000,000) in 1963.

10. Produced 14.6% of the national SHOE output (FIRST in the country) in 1965.

The Commonwealth is COMPACT, CONVENIENT and COOPERATIVE, with many fine industrial sites along our new expressways: A fine place to live as well as work.

61.8% OF CANADIAN POPULATION

61.9% OF CANADIAN RETAIL SALES



70.7% OF CANADIAN FACTORIES

83.2% OF CANADIAN INDUSTRIAL WAGES AND SALARIES

EXPORT

36.4% U.S. INDUSTRIAL SALARIES AND WAGES

35.0% U.S. INCOME TAXES

51.1% U.S. SAVINGS DEPOSITS

30.4% U.S. RETAIL SALES

28.4% OF U.S. POPULATION

36.7% U.S. MFG. PLANTS

NUCLEUS OF THE NORTHEAST

SOURCES OF PERCENTAGES: UNITED STATES FIGURES: POPULATION, 1966 EST., U.S. CENSUS BUREAU., MANUFACTURING PLANTS AND PAYROLLS, U.S. CENSUS OF MANUFACTURES, 1963., INCOME TAXES, U.S. TREASURY DEPARTMENT, INTERNAL REVENUE SERVICE, 1965. SAVINGS DEPOSITS, ANNUAL REPORT, FEDERAL DEPOSIT INSURANCE CORPORATION, 1965., RETAIL SALES, 1963 U.S. CENSUS OF BUSINESS, RETAIL TRADE.

CANADIAN FIGURES - 1966 POPULATION AND 1965 RETAIL SALES (ESTIMATED), SALES MANAGEMENT, SURVEY OF BUYING POWER JUNE 10, 1966. CANADIAN FACTORIES AND INDUSTRIAL SALARIES AND WAGES, 1961, DOMINION BUREAU OF STATISTICS.

Massachusetts Department of Commerce and Development

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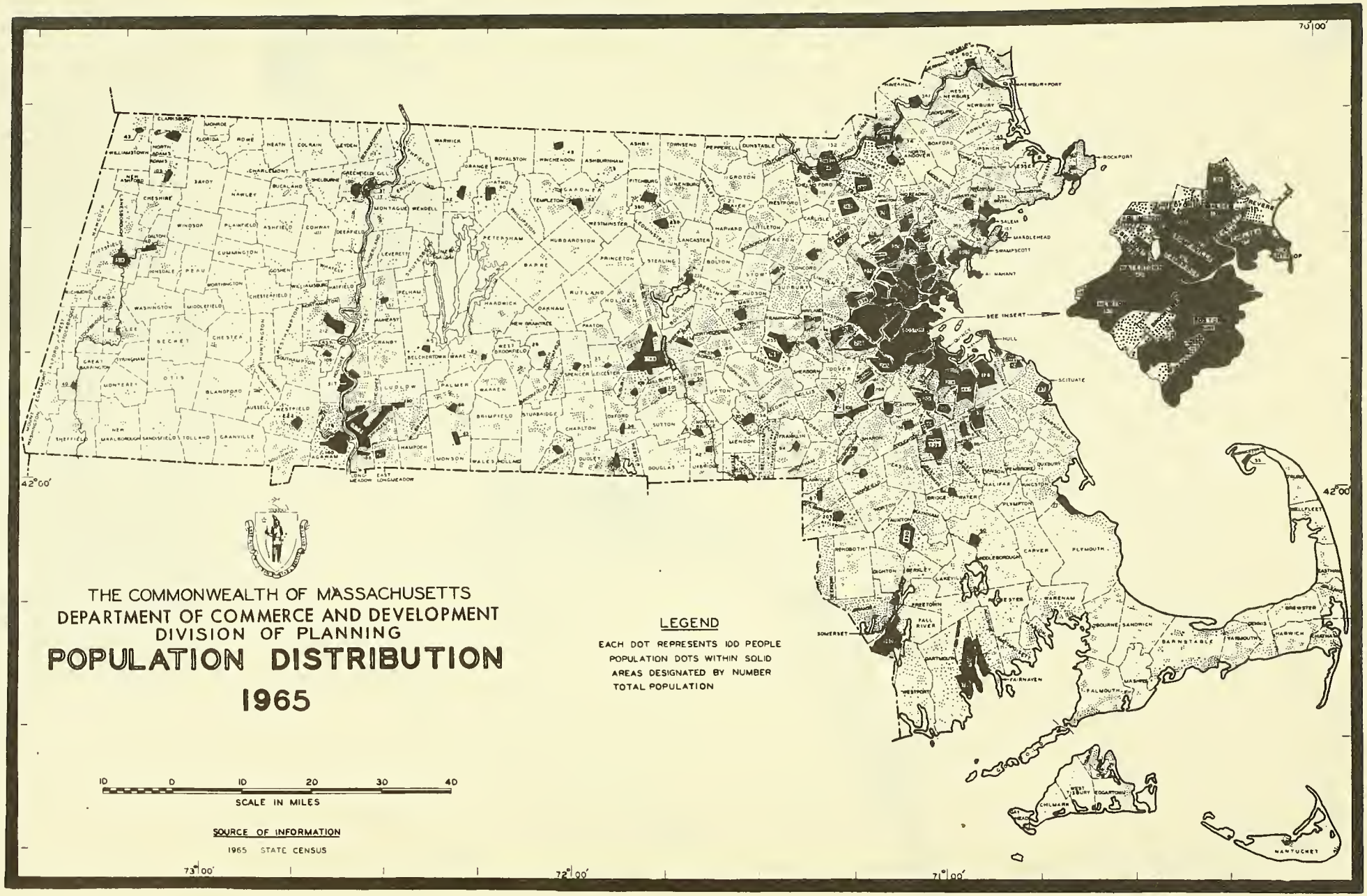
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PLYMOUTH
CARVER
MIDDLEBOROUGH
PLYMPTON
HALIFAX
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ATTLEBORO
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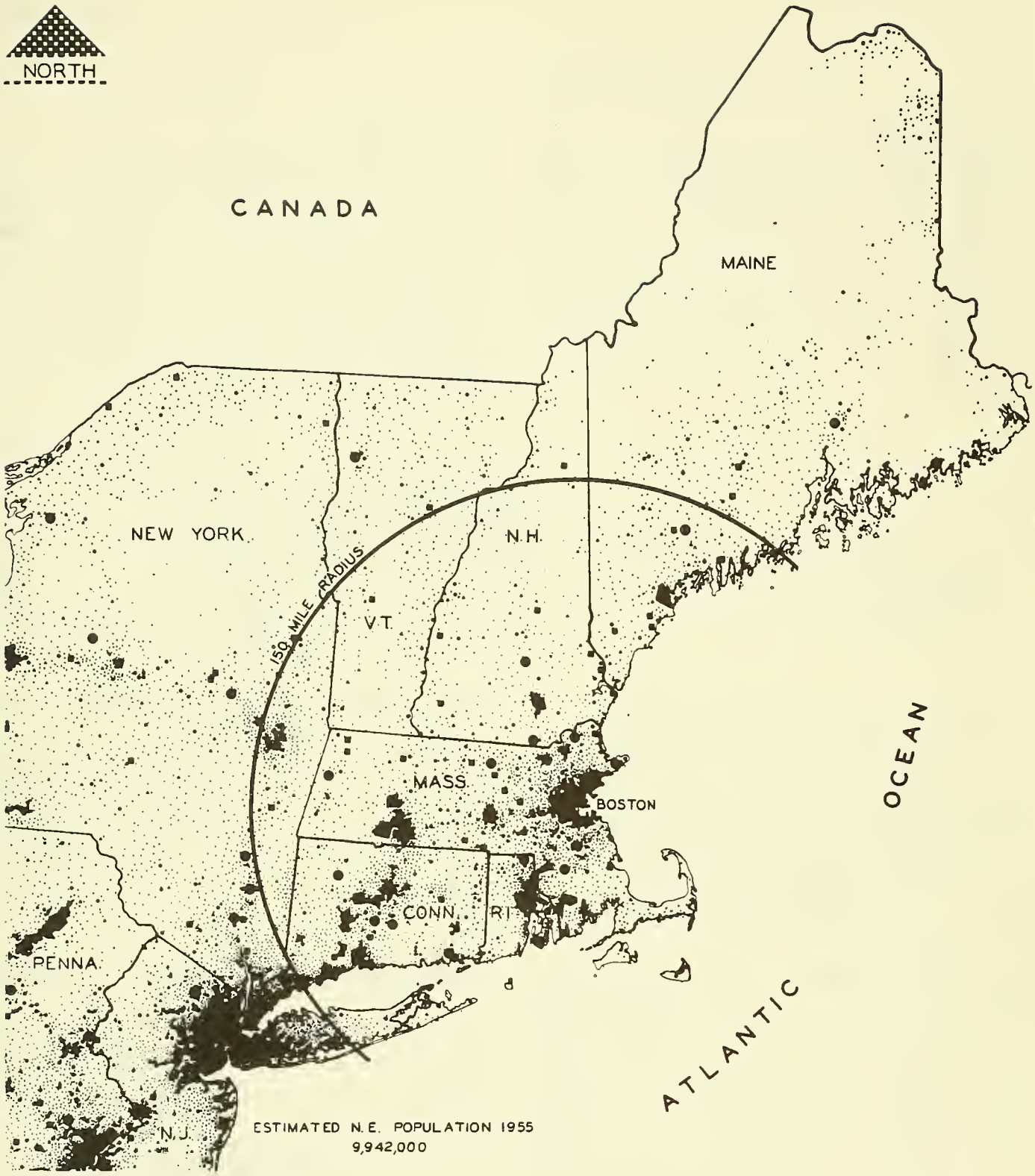


POPULATION DISTRIBUTION IN NEW ENGLAND

40 0 40 80
SCALE IN MILES

- URBANIZED AREAS
- PLACES OF 25,000 OR MORE
- PLACES OF 10,000 TO 25,000
- PLACES OF 2,500 TO 10,000
- PLACES OF 1,000 TO 2,500
- PLACES OF 500 TO 1,000

SOURCE: U.S. BUREAU OF THE CENSUS 1960

POPULATION - U. S. CENSUS

NUMBER OF PEOPLE

Year	Number	Mass.	Ratio to 1930 N. E.	U. S.
1910	3,366,416	79.2%	80.2%	74.9%
1920	3,852,356	90.7	90.6	86.1
1930	4,249,614	100.0	100.0	100.0
1940	4,316,721	101.6	103.3	107.3
1945	4,493,281	105.7	101.9*	108.3*
1950	4,690,514	110.4	114.1	122.8
1955	4,837,645	113.8	118.6*	134.0*
1960	5,149,834	121.2	128.7	145.6
1965	5,295,281	124.6	136.7*	157.3*

AGE COMPOSITION, 1960

Age	Number	Percent of Total Mass.	N. E.	U. S.
Under 5	548,457	10.7%	10.8%	11.3%
5 - 13	860,529	16.7	17.1	18.2
14 - 19	433,785	8.4	8.5	8.9
14-over	3,739,592	72.6	72.1	70.4
21-over	3,245,066	63.0	62.4	60.3
65-over	571,609	11.1	10.7	9.2
Median Age		32.1	31.6	29.5

RACIAL DATA, 1960

	Number	Percent of total Mass.	N. E.	U. S.
White	5,023,144	97.5%	97.5%	88.6%
Negro	111,842	2.2	2.3	10.5
Other	13,592	.3	.2	.9
Foreign Stock	2,058,309	40.0	36.8	19.0
Foreign Born	576,452	11.2	10.1	5.4

Of the 2,058,309 persons of foreign stock 26.6% were Canadian, 15.1% Italian, 13.4% Irish, 9.4% United Kingdom and 6.7% Polish.

EDUCATION (persons 25 years old & over)

	Mass.	N. E.	U. S.
Median No. of School yrs. completed	11.6	11.2	10.6
Completing less than 5 grades	6.0%	5.9%	8.4%
Completing High School or more	47.0%	44.6%	41.1%

OCCUPATION, 1960

Of the 3,740,142 persons 14 years old and over in Massachusetts 2,087,874 or 55.8% were in the civilian labor force. Of these 63.9% were males and 36.1% were females. 4.2% were unemployed compared with 4.6% in New England and 5.1% in the United States.

Group	No.	% of total in Mass.	N. E.	U. S.
Prof., Tech. & Kindred	256,539	12.8%	12.1%	11.2%
Mgrs., Off., & Prop.	161,761	8.1	8.7	12.3
Clerical, etc.	325,690	16.3	15.3	14.4
Sales	146,372	7.3	7.0	7.2
Craftsmen, Foremen, etc.	279,196	14.0	14.6	13.5
Operatives	436,010	21.8	22.4	18.4
Pvt. Hshld. Workers	27,824	1.4	1.7	2.7
Service wkrs.	171,278	8.6	8.0	8.4
Laborers	78,804	3.9	4.6	7.0
Not Reported	116,838	5.8	5.6	4.9

POLITICS, PARTY AFFILIATION, 1966**

Total Registered Voters	2,633,312
Registered Democratic	41.8%
Registered Republican	22.9%
Unenrolled Voters	35.3%

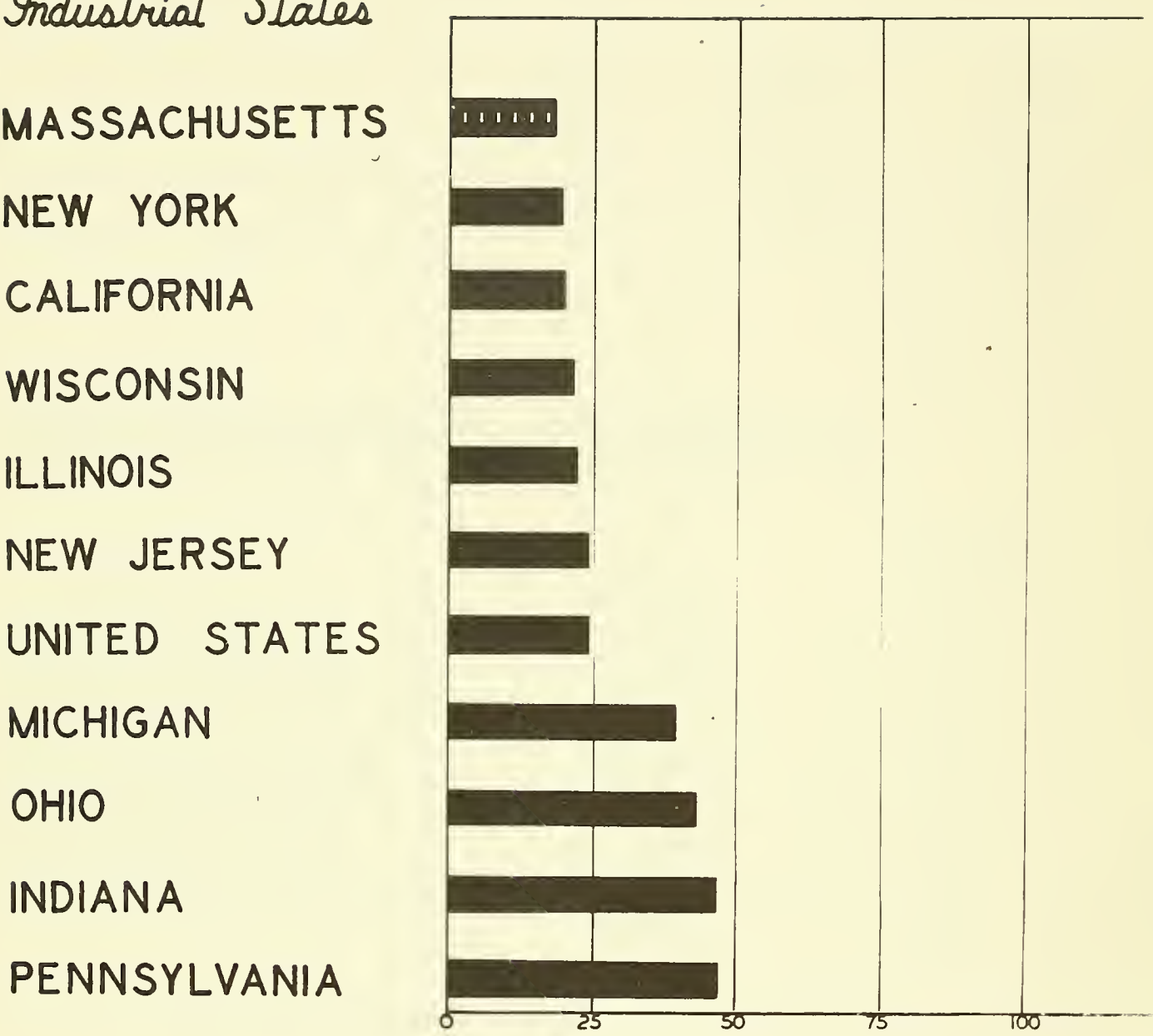
INCOMES OF FAMILIES, 1960

	Mass.	N. E.	U. S.
Incomes under $3,000	12.4%	13.6%	21.4%
From $3,000 - $5,999	34.2	34.8	32.8
From $6,000 - $9,999	36.4	35.3	30.8
$10,000 and over	17.0	16.3	15.1
Median Income	$6272	$6128	$5660

**Secretary of the Commonwealth

*Estimates from Series P-25, U. S. Dept. of Commerce Pop. Reports

Leading Industrial States



LABOR STABILITY

MAN-DAYS IDLE FROM LABOR DISPUTES
PER 10,000 MAN-DAYS AVAILABLE

1951-1965: AVERAGE
SOURCE: U.S. BUREAU OF LABOR STATISTICS

Massachusetts
Department of
Commerce
and
Development

MASSACHUSETTS POPULATION AND LABOR FORCE - 1960

	Male	Female	Total
Population	2,486,235	2,662,343	5,148,578
Persons 14 years old & over (1)	1,767,680	1,972,462	3,740,142
Civilian Labor Force (1)	1,335,045	753,506	2,088,551

DISTRIBUTION OF THE EMPLOYED CIVILIAN LABOR FORCE BY MAJOR OCCUPATION GROUPS FOR MASSACHUSETTS 1960 (1)

Group	Number	Percent of Total
Prof., Tech. & Kindred	256,539	12.8
Farmers & Farm Managers	7,763	.4
Managers, Officials & Proprietors	153,998	7.7
Clerical & Kindred Workers	325,690	16.3
Sales Workers	146,372	7.3
Craftsmen, Foremen & Kindred	279,196	14.0
Operatives & Kindred Workers	436,010	21.8
Private Household Workers	27,824	1.4
Service Workers	171,278	8.6
Farm Laborers & Foremen	8,508	.4
Laborers (Except Farm & Mine)	70,296	3.5
Not Reported	116,838	5.8
Total	2,000,312	100.0

(1) Based on a total state population of 5,149,317

PARTIAL BREAKDOWN OF PROFESSIONAL, TECHNICAL AND KINDRED WORKERS

	Male	Female
Electrical & Electronic Technicians	6,130	1,312
Engineering & Physical Sciences Technicians	1,371	430
Engineers	33,417	284
Natural Scientists	4,079	802

MASSACHUSETTS LABOR FACTS

DAYS LOST TO STRIKES - 1964

	State	% of Mfg. Emp. to total Non-Agri. Emp. 1964 (1)	No. of Mfg. Employees 1964 (1) in thousands	Manufacturing Man-Days Idle Due to Strikes in 1964 (2)	Mfg. Man Days Lost Per Mfg. Worker (3)
1.	California	25	1,405.4	945,000	.67
2.	Connecticut	43	419.3	134,000	.32
3.	Illinois	34	1,231.8	1,060,000	.86
4.	Indiana	41	622.8	478,000	.77
5.	Massachusetts	33	648.6	217,000	.33
6.	Michigan	41	999.9	4,070,000	4.07
7.	New Jersey	37	783.7	836,000	1.07
8.	New York	29	1,808.7	960,000	.53
9.	Ohio	39	1,245.2	2,010,000	1.61
10.	Pennsylvania	38	1,427.3	861,000	.60
11.	Wisconsin	37	465.4	520,000	1.12

(1) U. S. Department of Labor, "Employment and Earnings" Monthly Issues

(2) U. S. Department of Labor, Bulletin #1460 "Analysis of Work Stoppages, 1964"

(3) Computed by Research, Massachusetts Department of Commerce and Development

EMPLOYMENT

Statistics of employment by major non-agriculture industry groups in Massachusetts for the month of September in the years 1963-1965 are shown in Table I. These are the total number of persons on establishment payrolls who worked full time. Included are salaried officers of corporations as well as employees on the establishment payroll engaged in new construction and major additions or alteration to the plant who are utilized as a separate work force. Proprietors, self-employed persons, domestic servants, unpaid family workers, and members of armed forces are excluded.

Table II contains the latest available employment and payroll statistics by major industry groups and the detailed information on manufacturing as reported by the Massachusetts Division of Employment Security. This data applies to establishments with employees covered by unemployment insurance only.

TABLE I. MASSACHUSETTS EMPLOYMENT September 1963-1965 (In Thousands)

	1963	1964	1965
Contract Construction	117.5	93.9	98.0
Manufacturing	662.1	651.7	668.8
Transportation & Public Utilities	102.9	104.1	103.1
Wholesale & Retail	397.3	404.5	415.1
Finance, Ins., & Real Estate	104.7	106.8	106.6
Service & Misc.	333.4	355.5	369.0

Source: "Employment & Earnings," November 1965

TABLE II. EMPLOYMENT AND PAYROLLS AS REPORTED TO THE DIVISION OF EMPLOYMENT SECURITY*

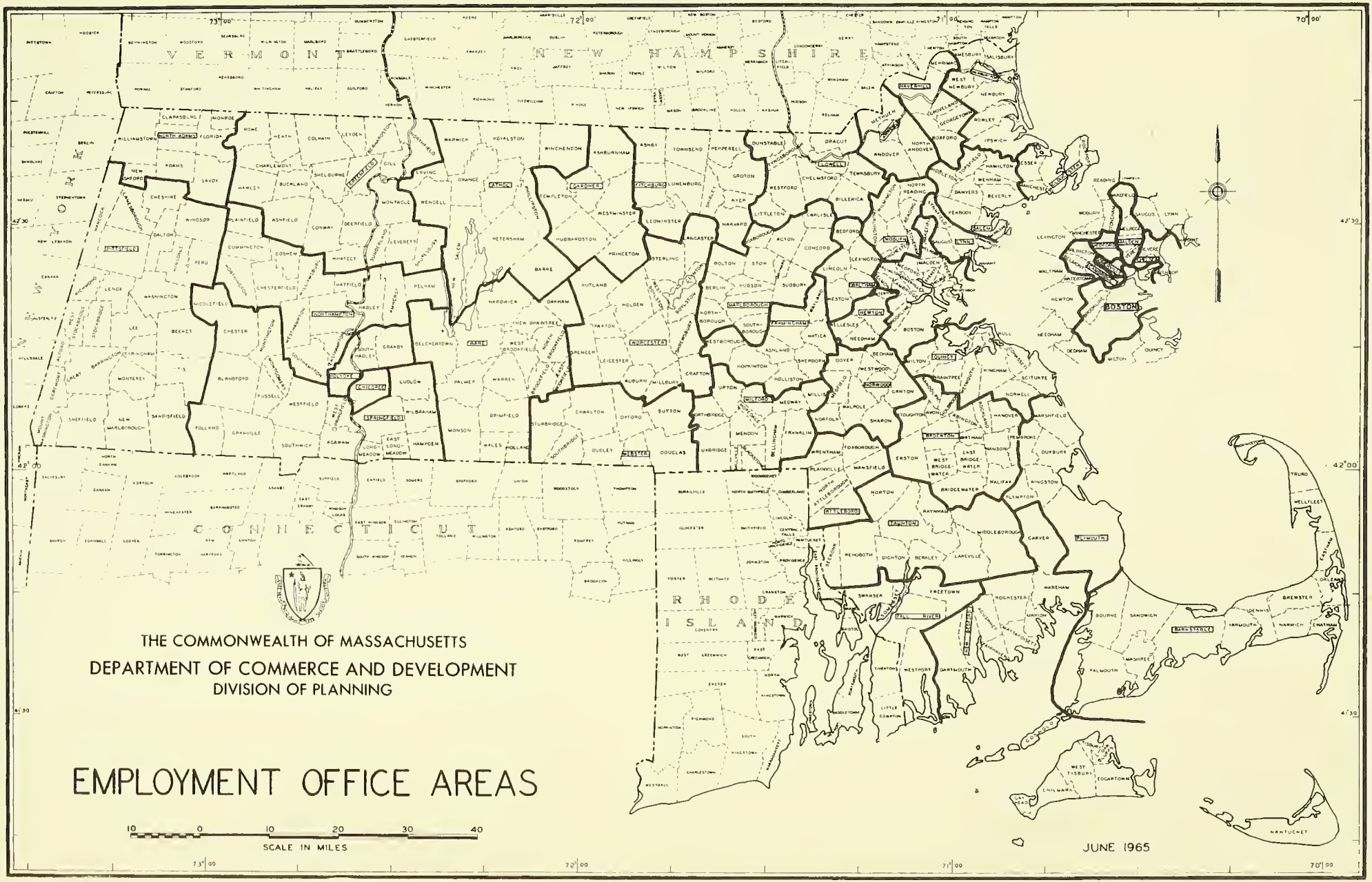
ALL INDUSTRY

	Industry	Number of Firms	1965 Annual Payroll	Nov. 1965 Employees	Distribution of Employees
1.	Agriculture & Mining	1,646	$ 49,497,000	9,796	0.6%
2.	Construction	13,468	596,183,000	91,051	5.7
3.	Manufacturing	10,662	3,947,127,000	678,778	42.5
4.	Trans., Comm., & Utilities	4,300	617,212,000	98,615	6.2
5.	Wholesale & Retail Trade	41,926	1,899,356,000	427,468	26.7
6.	Finance, Ins. & Real Estate	8,678	598,404,000	105,013	6.6
7.	Service Industry	28,417	836,614,000	187,388	11.7
	Totals	109,097	$8,544,396,000	1,598,109	100.0%

MANUFACTURING

	Group	Number of Firms	Annual Payroll	Nov. 1965 Employees	Distribution by employees
1.	Ordnance & Access.	17	$101,657,000	13,423	2.0%
2.	Food & Kindred Prod.	907	228,086,000	41,390	6.1
3.	Tobacco Mfg.	12	2,442,000	589	0.1
4.	Textile Mill Prod.	473	200,140,000	39,358	5.8
5.	Apparel & other fin. goods	1,094	218,528,000	57,101	8.4
6.	Lumber & Wood Prod.	370	27,075,000	5,396	0.8
7.	Furniture & Fixtures	406	63,873,000	12,520	1.8
8.	Paper & Allied Prod.	345	223,253,000	36,224	5.3
9.	Printing, Pub. & Allied	1,235	249,875,000	41,206	6.1
10.	Chemicals & Allied	443	130,916,000	17,853	2.6
11.	Prod.of Petroleum & Coal	33	7,398,000	1,023	0.1
12.	Rubber Products	359	207,960,000	36,845	5.4
13.	Leather & Leather Prod.	618	218,644,000	49,355	7.3
14.	Stone, Clay & Glass Prod.	296	80,420,000	11,531	1.7
15.	Primary Metal Industries	258	140,327,000	21,822	3.2
16.	Fabr. Metal Products	1,040	252,552,000	41,110	6.1
17.	Machinery (ex. electrical)	1,323	530,159,000	77,149	11.4
18.	Electrical Machinery	515	558,765,000	91,441	13.5
19.	Transportation Equipment	149	186,537,000	26,635	3.9
20.	Prof.,Scient. & Controlling Inst. Photo., & Optical Goods--Watches & Clocks	231	176,674,000	27,674	4.1
21.	Miscellaneous Mfg. Ind.	538	141,781,000	29,133	4.3

*The 1965 figures are based on the revised Standard Industrial Classification Code 1957. These figures are not comparable to tabulations of years prior to 1958.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NEW HAMPSHIRE
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THE COMMONWEALTH OF MASSACHUSETTS
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DIVISION OF PLANNING
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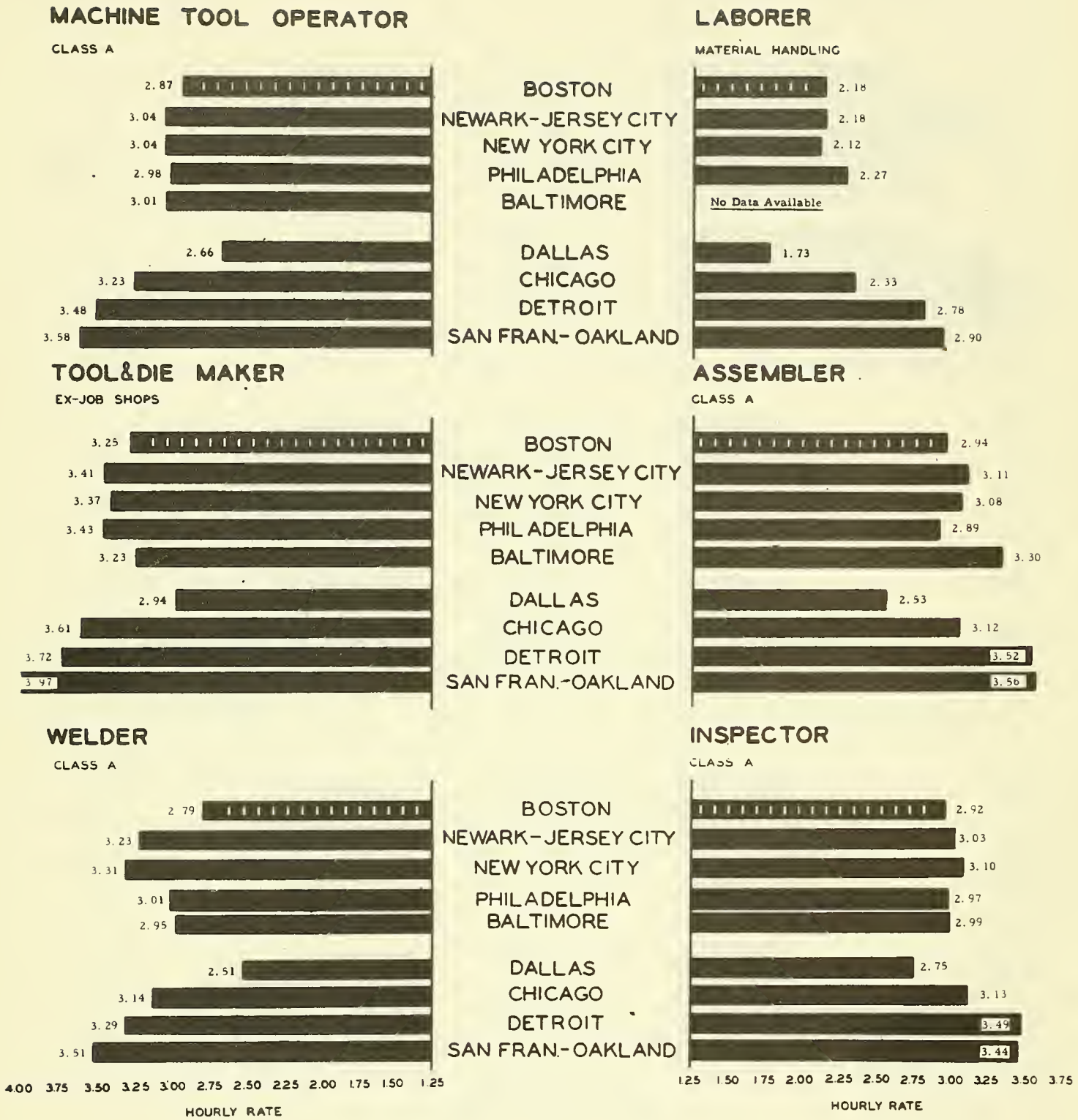
SCALE IN MILES
JUNE 1965

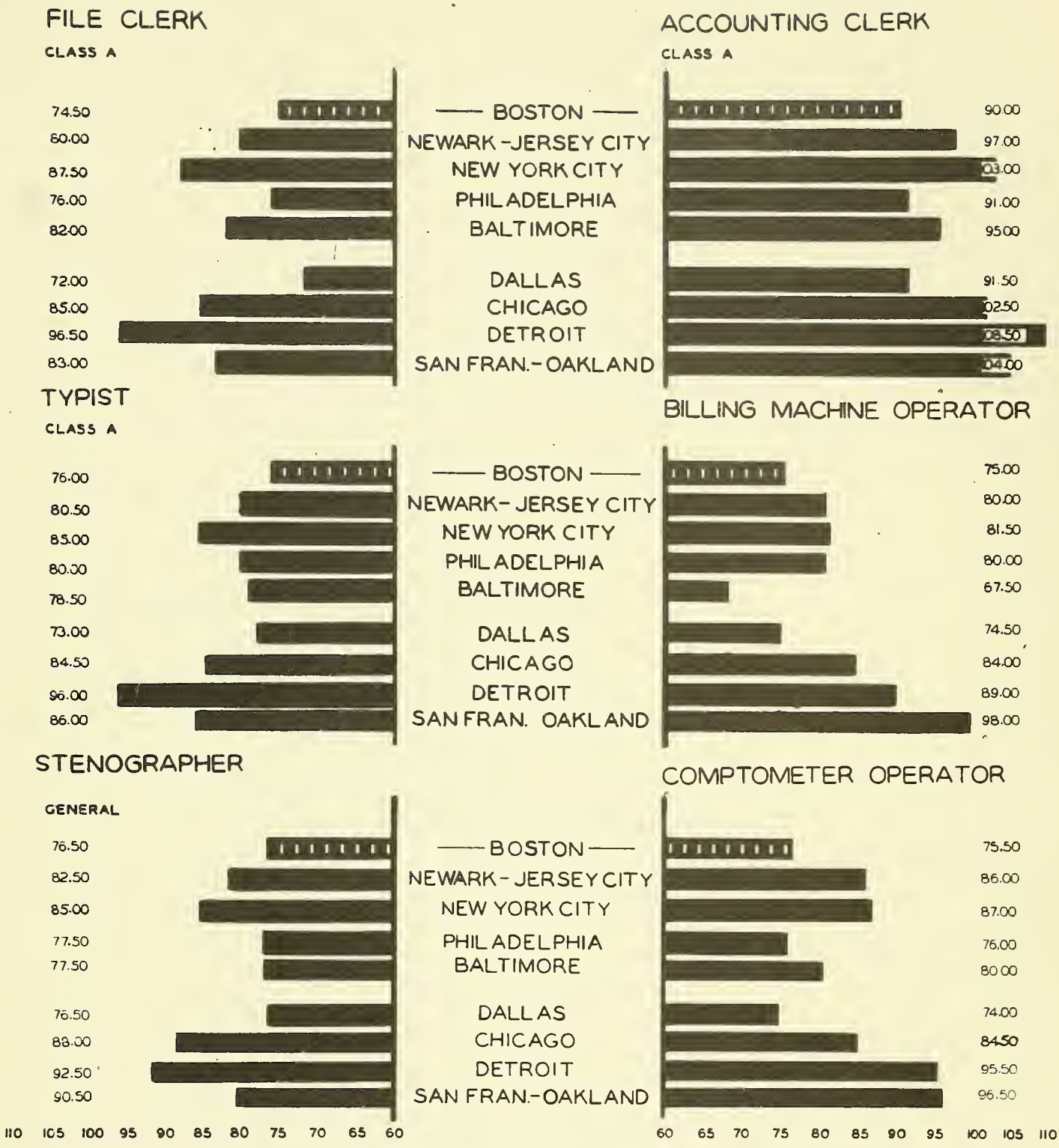


HOURLY WAGE COMPARISONS

APRIL-JUNE 1965 AVERAGE HOURLY EARNINGS
FOR MEN IN MACHINERY INDUSTRIES
EXCLUDING OVERTIME OR PREMIUM PAY FOR NIGHT WORK

SOURCE: U.S. DEPARTMENT OF LABOR, BUREAU OF LABOR STATISTICS

Massachusetts Department of Commerce and Development



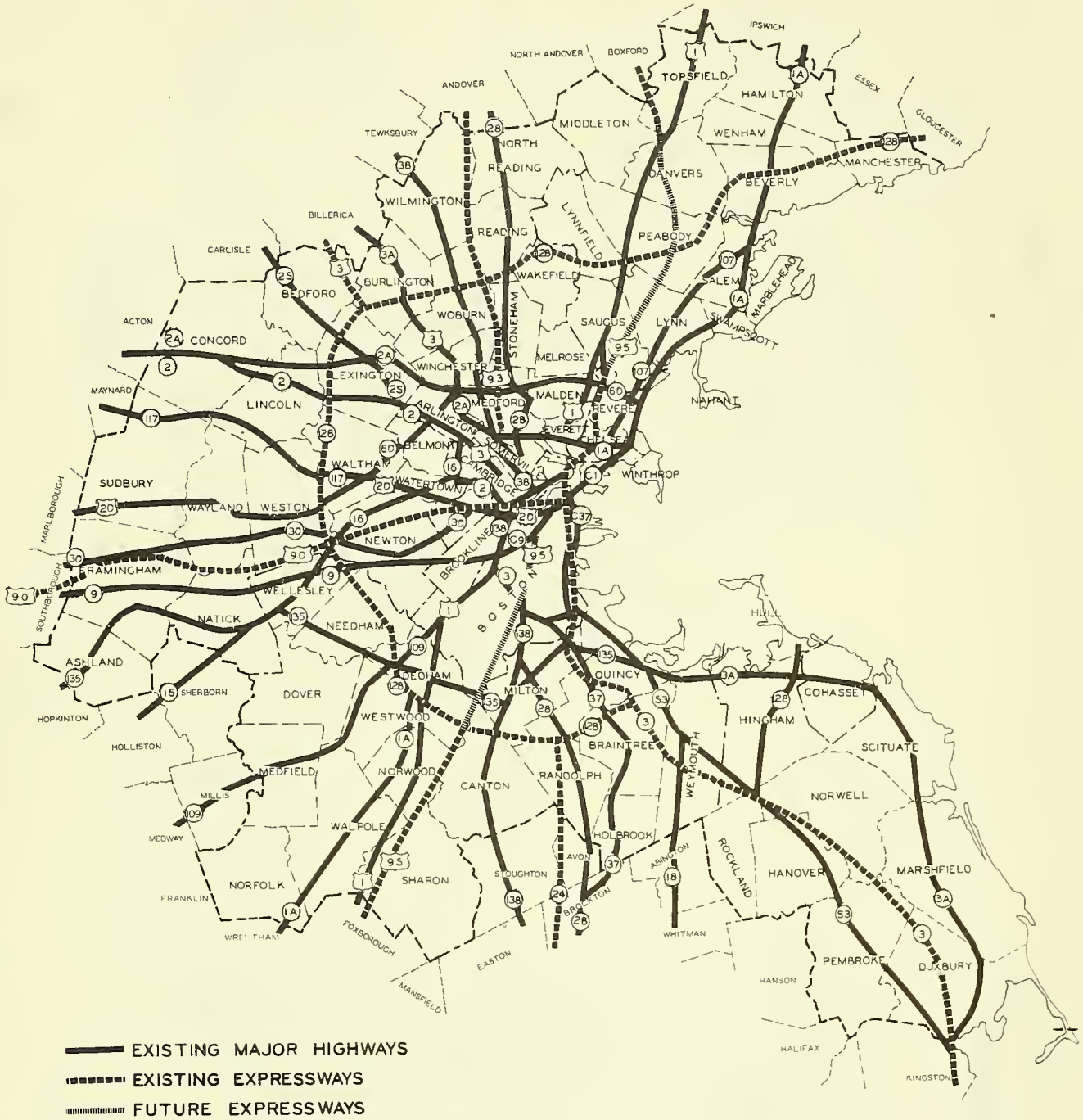
WEEKLY WAGE COMPARISONS

1964-1965 AVERAGE WEEKLY EARNINGS
FOR WOMEN IN ALL INDUSTRIES
SALARIES BASED ON STANDARD WORKING SCHEDULES

SOURCE: U.S. DEPARTMENT OF LABOR, BUREAU OF LABOR STATISTICS

Massachusetts Department of Commerce and Development

MAJOR HIGHWAYS



EXISTING MAJOR HIGHWAYS

EXISTING EXPRESSWAYS

FUTURE EXPRESSWAYS

BOSTON METROPOLITAN AREA

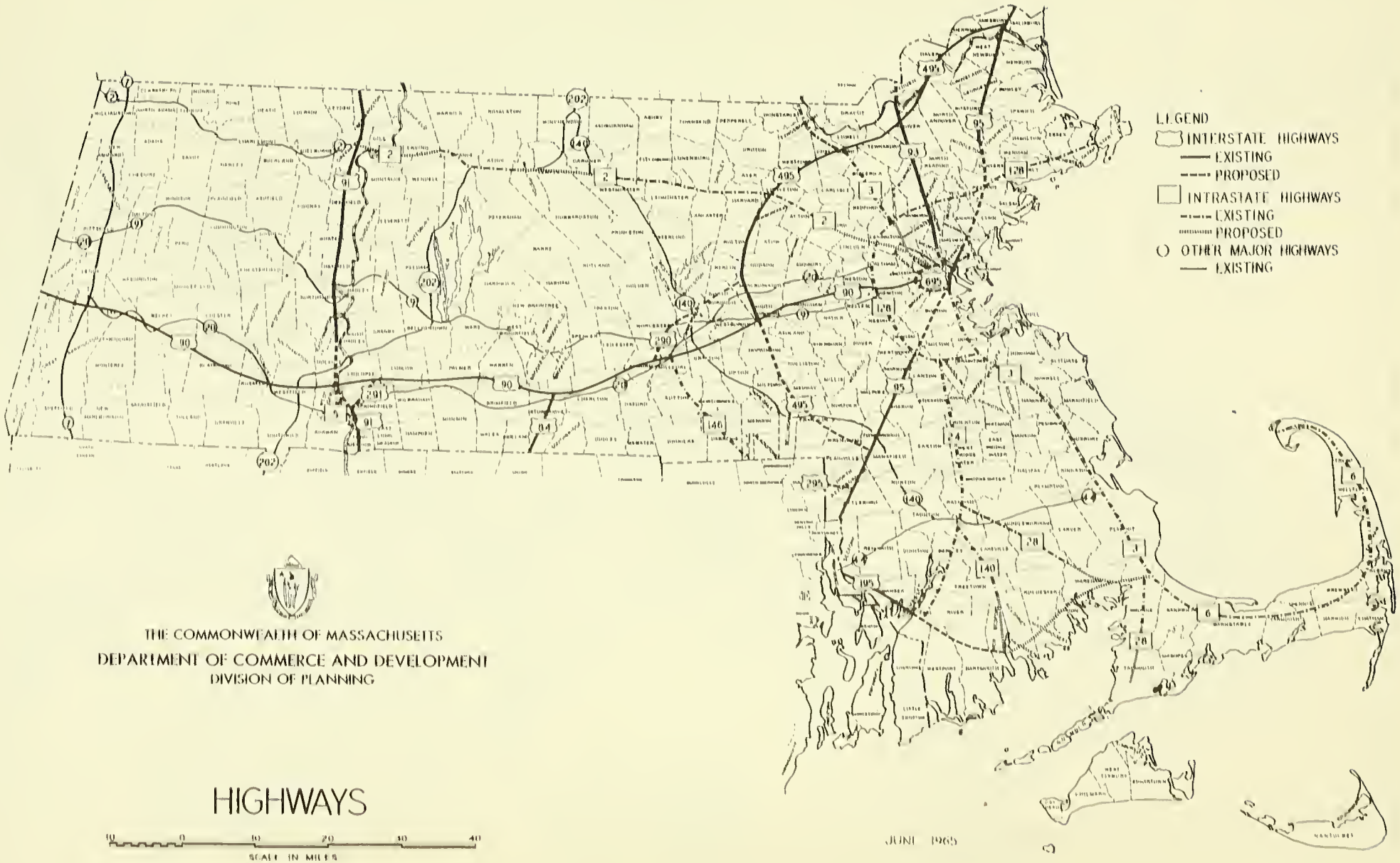
AS DEFINED BY 1960 FEDERAL CENSUS

Massachusetts Department of Commerce and Development

SCALE IN MILES 1 0 1 2 3 4 5 6

SOURCE: DEPT OF PUBLIC WORKS

JUNE 1965



THE COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF COMMERCE AND DEVELOPMENT
DIVISION OF PLANNING

HIGHWAYS

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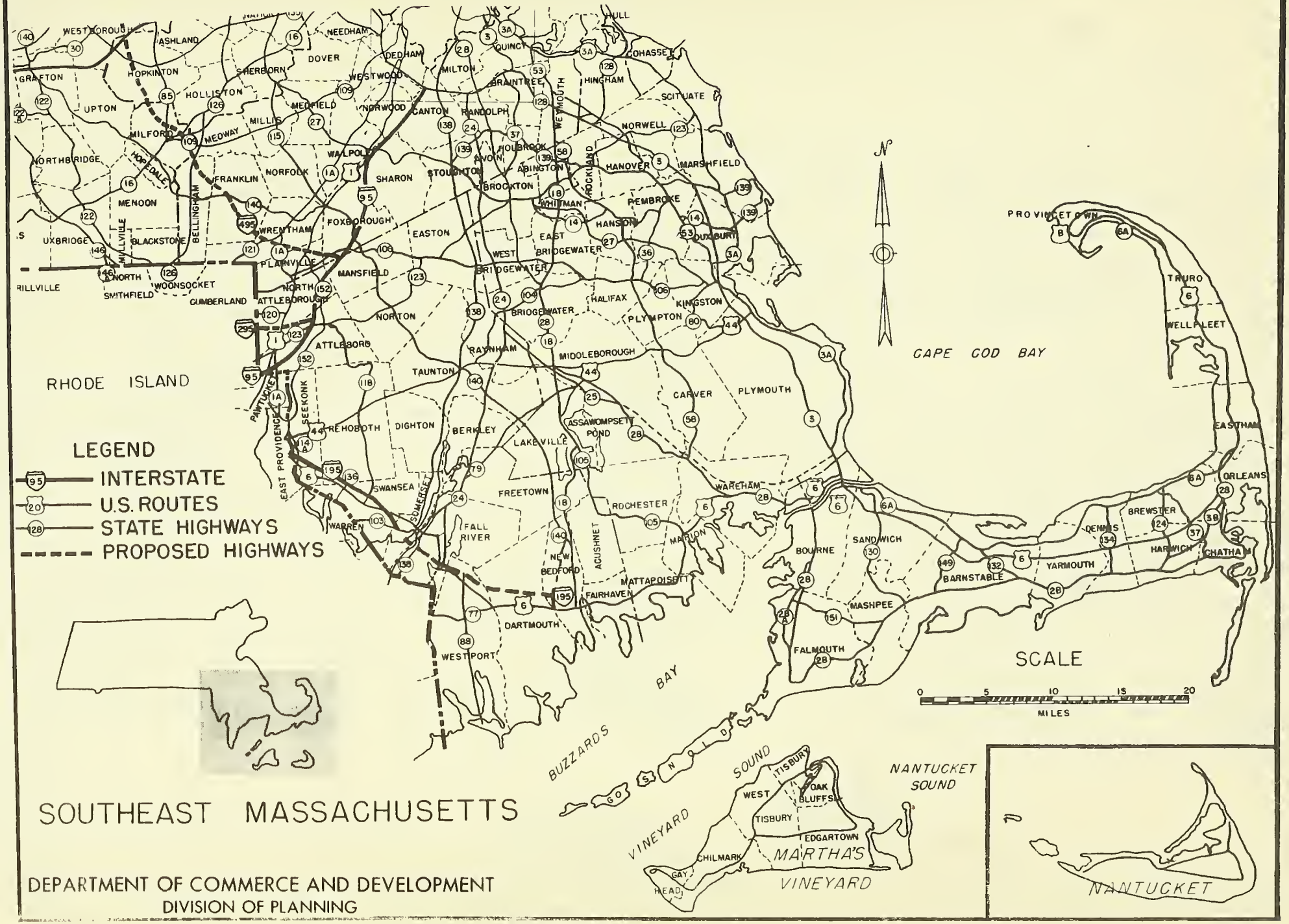
SCALE IN MILES

JUNE 1965

EASTERN MASSACHUSETTS

DEPARTMENT OF COMMERCE AND DEVELOPMENT
DIVISION OF PLANNING


SOUTHEAST MASSACHUSETTS
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PROPOSED HIGHWAYS
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CAPE COD BAY
BUZZARDS BAY
VINEYARD SOUND
NANTUCKET SOUND
MARTHA'S VINEYARD
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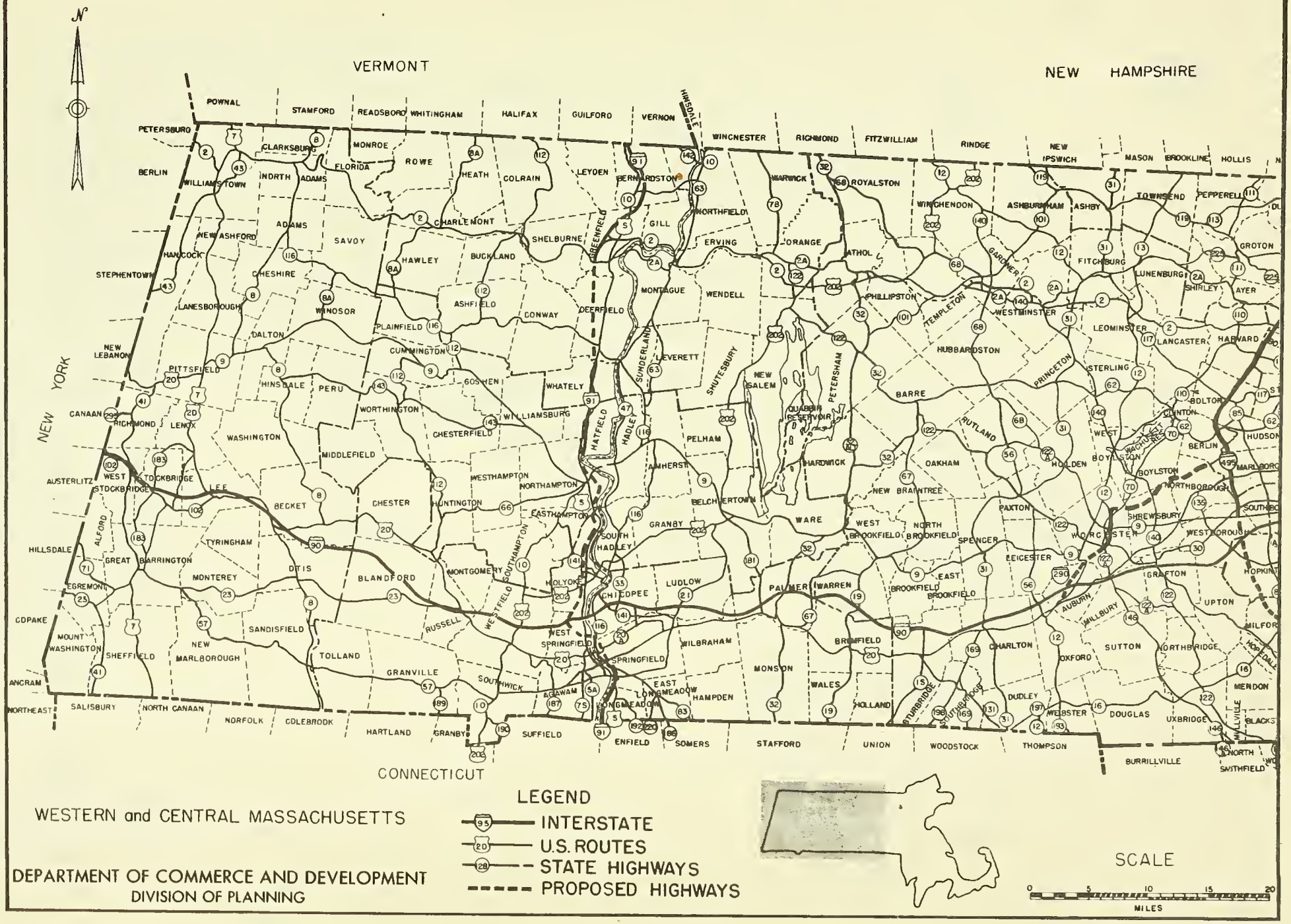
DEPARTMENT OF COMMERCE AND DEVELOPMENT
DIVISION OF PLANNING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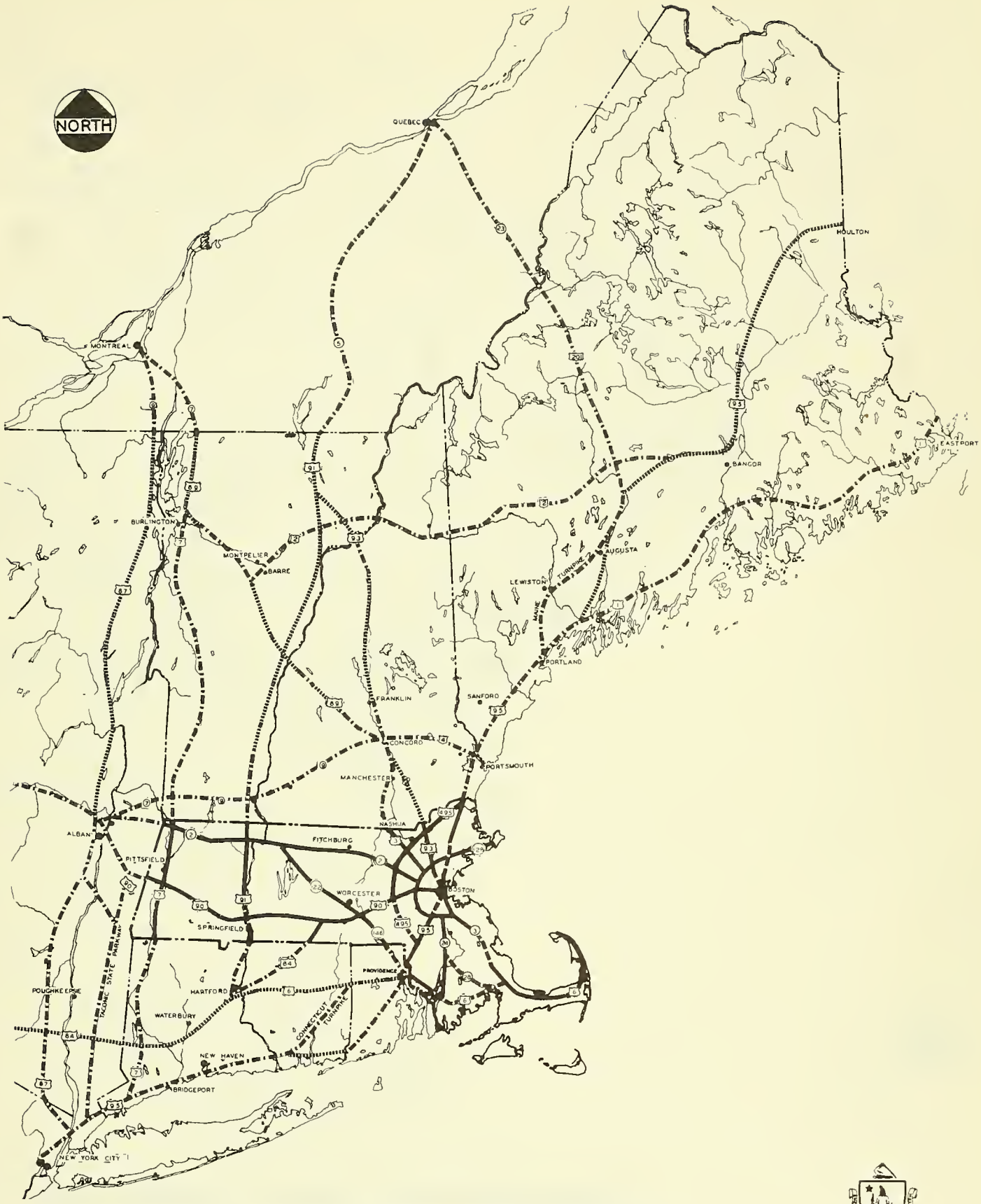
READSBORO
WHITINGHAM
HALIFAX
GUILFORD
VERNON
HINSDALE
WINCHESTER
RICHMOND
FITZWILLIAM
RINDGE
NEW IPSWICH
MASON
BROOKLINE
HOLLIS
PETERSBURG
BERLIN
WILLIAMSTOWN
CLARKSBURG
MONROE
FLORIDA
ROWE
HEATH
COLRAIN
LEYDEN
BERNARDSTON
WARWICK
ROYALSTON
WINCHENDON
ASHBURNHAM
ASHBY
TOWNSEND
PEPPERELL
INDRTH ADAMS
ADAMS
NEW ASHFORD
HANCOCK
CHARLEMONT
SAVOY
SHELBURNE
GREENFIELD
GILL
NORTHFIELD
ERVING
ORANGE
ATHOL
GARDNER
FITCHBURG
LUNENBURG
GROTON
SHIRLEY
AYER
STEPHENTOWN
CHESHIRE
HAWLEY
BUCKLAND
MONTAGUE
WENDELL
PHILLIPSTON
TEMPLETON
WESTMINSTER
LEOMINSTER
LANCASTER
HARVARD
LANESBOROUGH
WINDSOR
ASHFIELD
CONWAY
DEERFIELD
SUNDERLAND
SHUTESBURY
NEW SALEM
PETERSHAM
HUBBARDSTON
PRINCETON
STERLING
BOLTON
CLINTON
HUDSON
BERLIN
NEW LEBANON
DALTON
PLAINFIELD
CUMMINGTON
EVERETT
PITTSFIELD
HINSDALE
PERU
GOSHEN
WHATELY
QUABBIN RESERVOIR
BARRE
RUTLAND
WEST BOYLSTON
CANAAN
RICHMOND
LENOX
WORTHINGTON
WILLIAMSBURG
HATFIELD
HADLEY
PELHAM
AMHERST
HARDWICK
OAKHAM
HOLDEN
BOYLSTON
MARLBORO
WASHINGTON
CHESTERFIELD
MIDDLEFIELD
AUSTERLITZ
WEST STOCKBRIDGE
STOCKBRIDGE
LEE
WESTHAMPTON
NORTHAMPTON
BELCHERTOWN
NEW BRAINTREE
NORTHBOROUGH
SOUTHBORO
BECKET
CHESTER
HUNTINGTON
EASTHAMPTON
GRANBY
WARE
WEST BROOKFIELD
NORTH BROOKFIELD
PAXTON
SHREWSBURY
WORCESTER
WEST BOROUGH
SPENCER
LEICESTER
HILLSDALE
ALFORD
GREAT BARRINGTON
TYRINGHAM
MONTEREY
OTIS
BLANDFORD
MONTGOMERY
SOUTHAMPTON
SOUTH HADLEY
EGREMONT
MOLYOKE
CHICOPEE
LUDLOW
PALMER
WARREN
EAST BROOKFIELD
BROOKFIELD
GRAFTON
HOPKINTON
AUBURN
UPTON
GOPAKE
MOUNT WASHINGTON
SHEFFIELD
NEW MARLBOROUGH
SANDISFIELD
TOLLAND
GRANVILLE
RUSSELL
WESTFIELD
WEST SPRINGFIELD
SPRINGFIELD
WILBRAHAM
BROMFIELD
CHARLTON
OXFORD
SUTTON
NORTHBRIDGE
WILLBURY
MILFORD
HOPEDALE
MENDON
ANCRAM
SOUTHWICK
AGAWAM
EAST LONGMEADOW
LONGMEADOW
HAMPDEN
MONSON
WALES
HOLLAND
DUDLEY
WEBSTER
DOUGLAS
UXBRIDGE
BLACKSTONE
MILLVILLE
NORTHEAST
SALISBURY
NORTH CANAAN
NORFOLK
COLEBROOK
HARTLAND
GRANBY
SUFFIELD
ENFIELD
SOMERS
STAFFORD
UNION
WOODSTOCK
THOMPSON
BURRILLVILLE
NORTH SMITHFIELD
LEGEND
INTERSTATE
U.S. ROUTES
STATE HIGHWAYS
PROPOSED HIGHWAYS
SCALE
0 5 10 15 20
MILES
WESTERN and CENTRAL MASSACHUSETTS
DEPARTMENT OF COMMERCE AND DEVELOPMENT
DIVISION OF PLANNING



PRESENT AND FUTURE HIGHWAYS IN NEW ENGLAND

MAJOR MASSACHUSETTS ROADS

FUTURE MASSACHUSETTS ROADS

MAJOR NEW ENGLAND ROADS

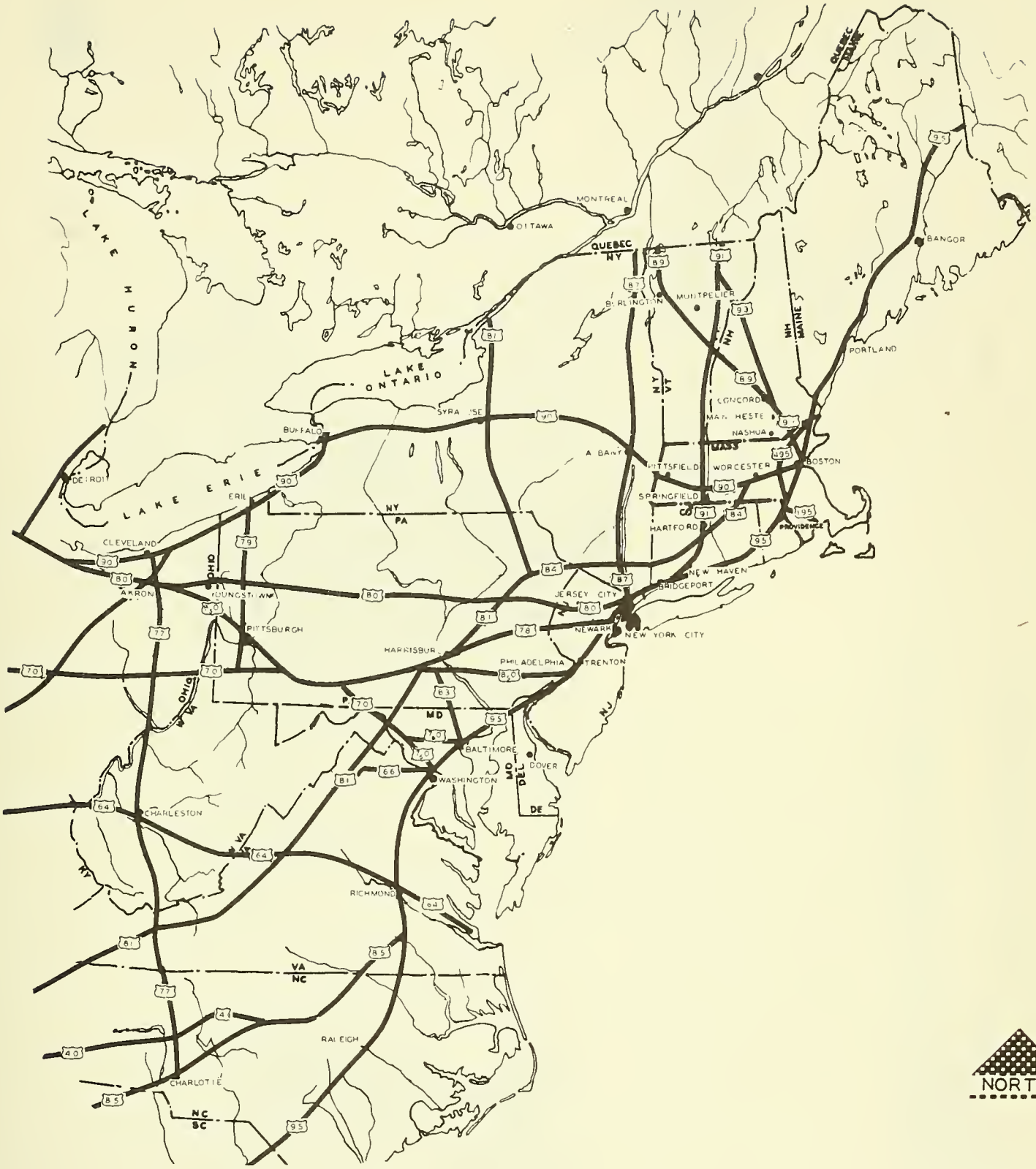
FUTURE NEW ENGLAND ROADS

40 30 20 10 0 20 40 60 80

SCALE IN MILES

JUNE 1965

Massachusetts Department of Commerce and Development



PRESENT AND PROPOSED LIMITED ACCESS HIGHWAYS NORTHEAST UNITED STATES

50 0 50 100 150 200

SCALE IN MILES

MAY 1963

RAILROADS IN MASSACHUSETTS

- NEW YORK NEW HAVEN & HARTFORD
- BOSTON & MAINE
- BOSTON & ALBANY
- CENTRAL VERMONT
- OTHERS

SCALE IN MILES

10 0 10 20 30

SOURCE: DEPARTMENT OF PUBLIC UTILITIES

RAILROADS

PASSENGER & FREIGHT SERVICE

FREIGHT SERVICE ONLY

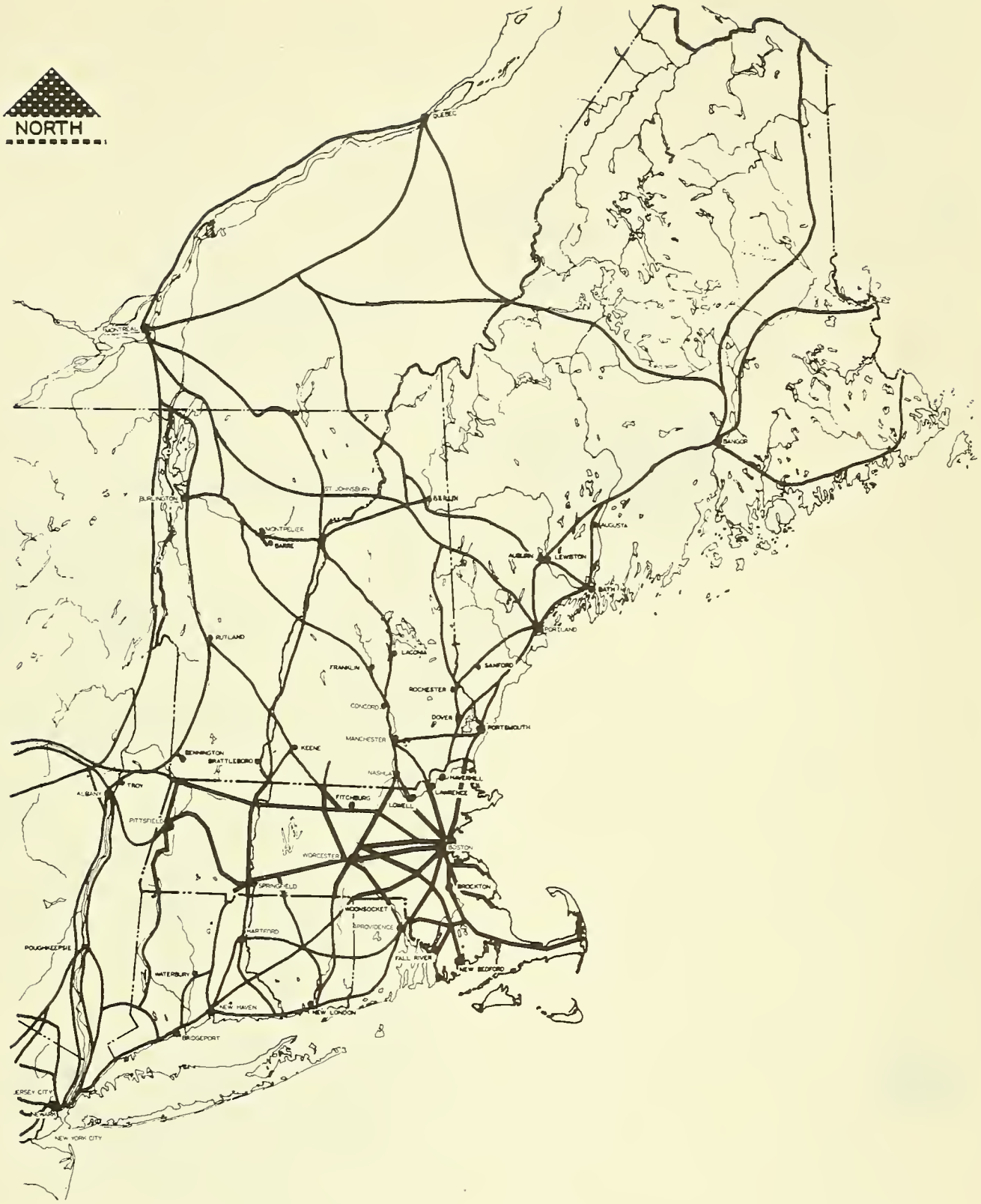
BOSTON METROPOLITAN AREA

AS DEFINED BY 1960 FEDERAL CENSUS

SCALE IN MILES

1 0 1 2 3 4 5 6

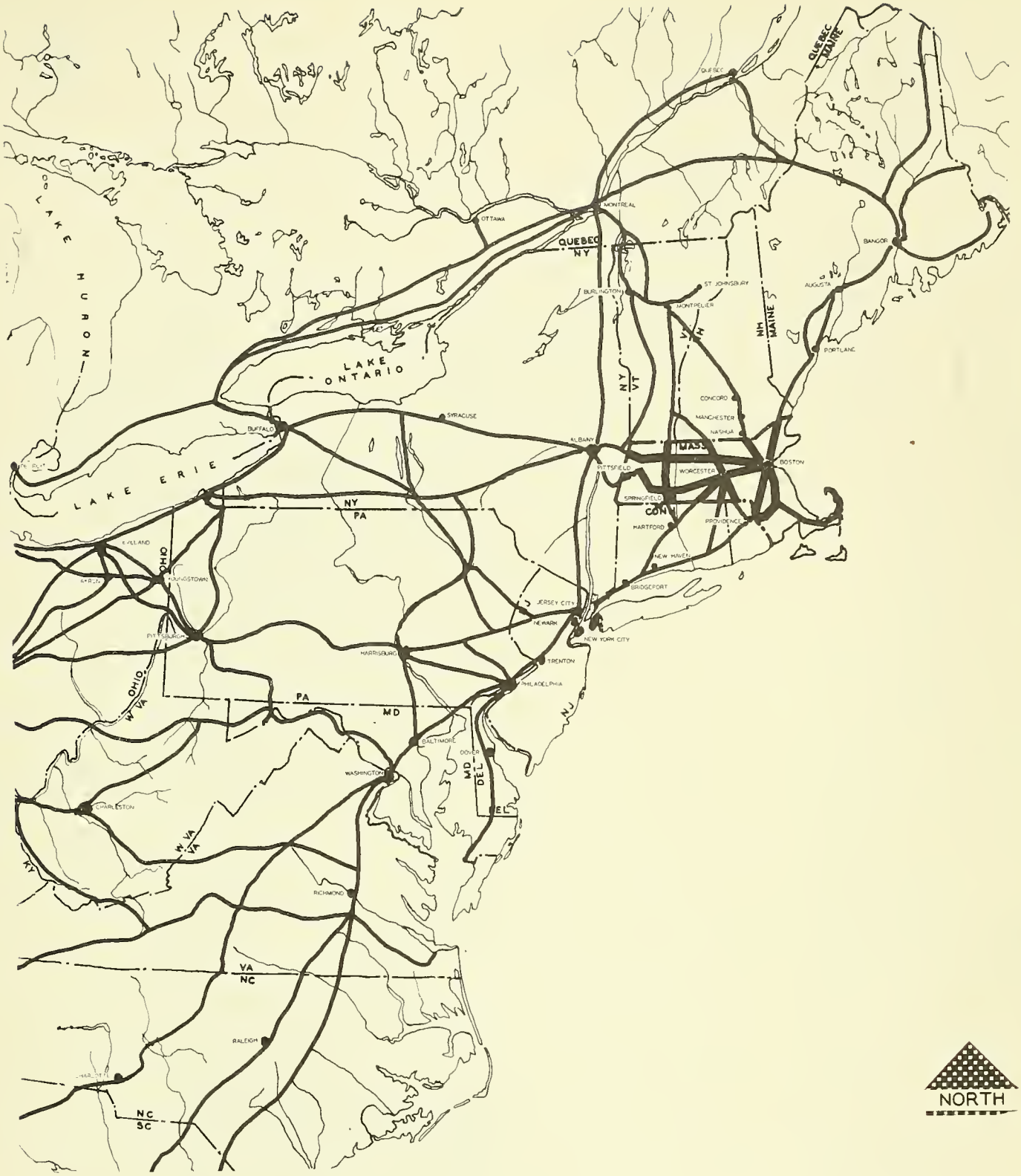
SOURCE: DEPT. OF PUBLIC UTILITIES



RAILROADS IN NEW ENGLAND

SCALE IN MILES

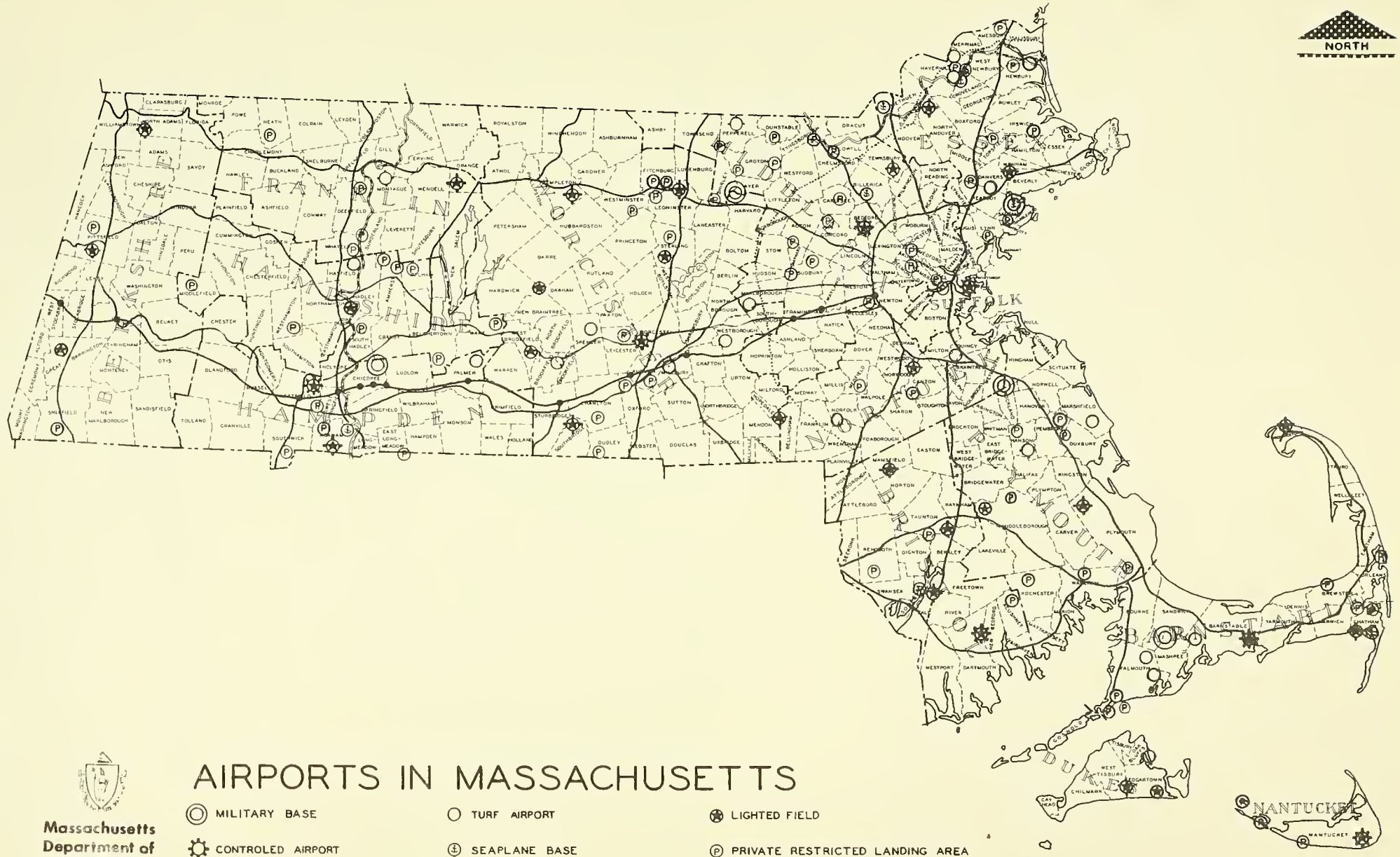
40 0 40 80 120



RAILROADS
NORTHEAST UNITED STATES

50 0 50 100 150 200

SCALE IN MILES



AIRPORTS IN MASSACHUSETTS

- MILITARY BASE
- CONTROLED AIRPORT
- PAVED AIRPORT
- TURF AIRPORT
- SEAPLANE BASE
- LIGHTED FIELD
- PRIVATE RESTRICTED LANDING AREA NOT AVAILABLE FOR PUBLIC USE

SOURCE: MASSACHUSETTS AERONAUTIC COMMISSION

JUNE 1965

SCALE IN MILES 0 10 20 30 40

Massachusetts Department of Commerce and Development

TRANSPORTATION

Logan International Airport:

Located two miles or a twelve-minute ride from the business center of Boston, provides local, national and international flight service. With sixteen airlines and three airfreight companies, Logan International scheduled 2,718 domestic and 147 international flights each week during the 1964 fiscal year.

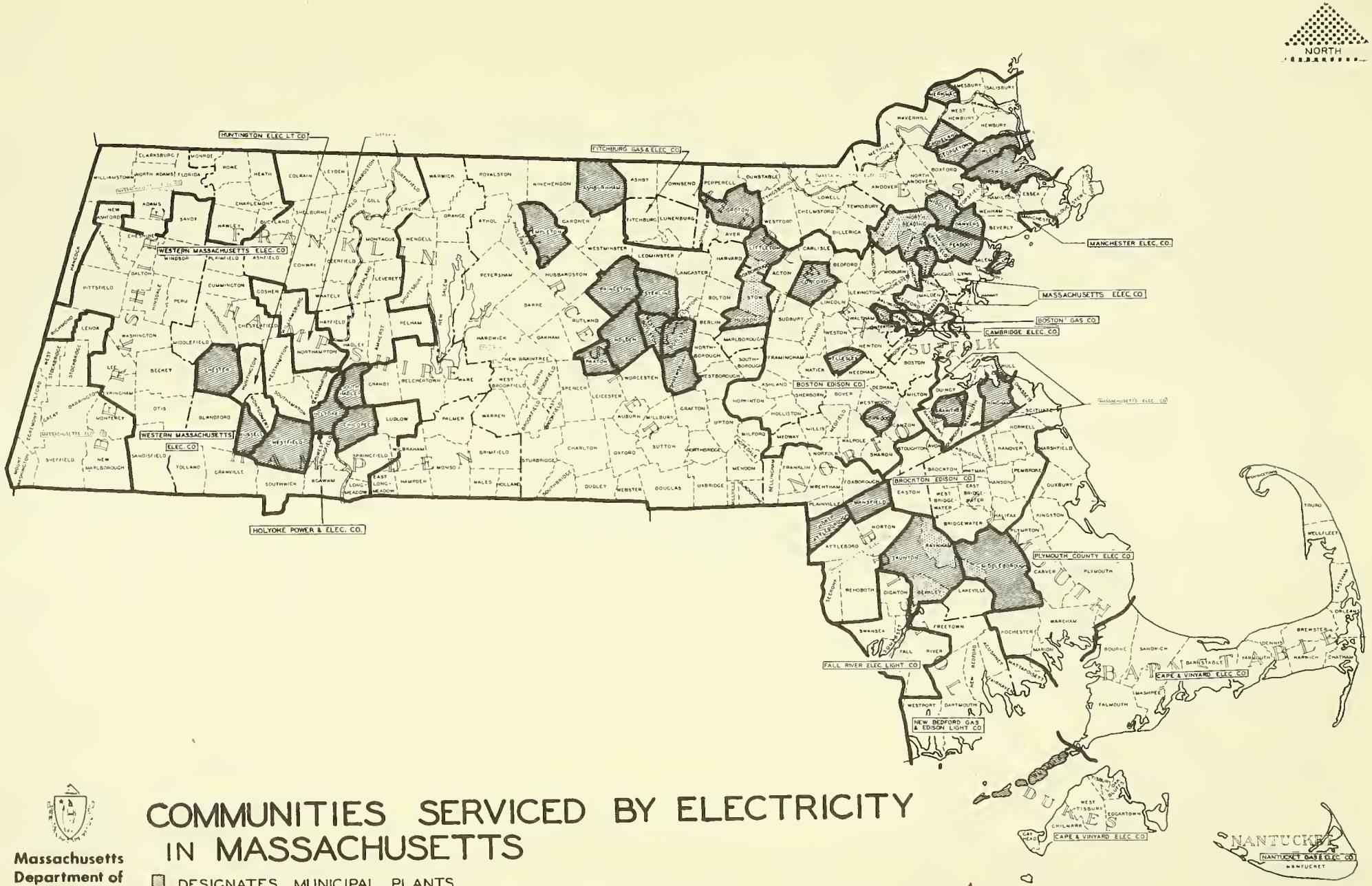
The airport, consisting of 2000 acres, has four runways 300 feet wide, the longest being almost two miles in length.

Port of Boston:

Primary ocean shipping in Massachusetts and New England is from the Port of Boston, one of the ranking ports in the United States. It is the only New England port providing regular general inter-coastal and foreign cargo service. This deep-water port's facilities, compared with United States ports today, is regarded as good or very good, and it is the nearest major Atlantic port to Europe, Africa and the east coast of South America. All necessary services, such as warehousing, cold storage, class 1 railroads, foreign trade bankers and freight forwarders are provided.

Railroads:

A United States Supreme Court decision now places Massachusetts in a competitive position with all eastern coastal states.



Massachusetts Department of Commerce and Development

COMMUNITIES SERVICED BY ELECTRICITY IN MASSACHUSETTS

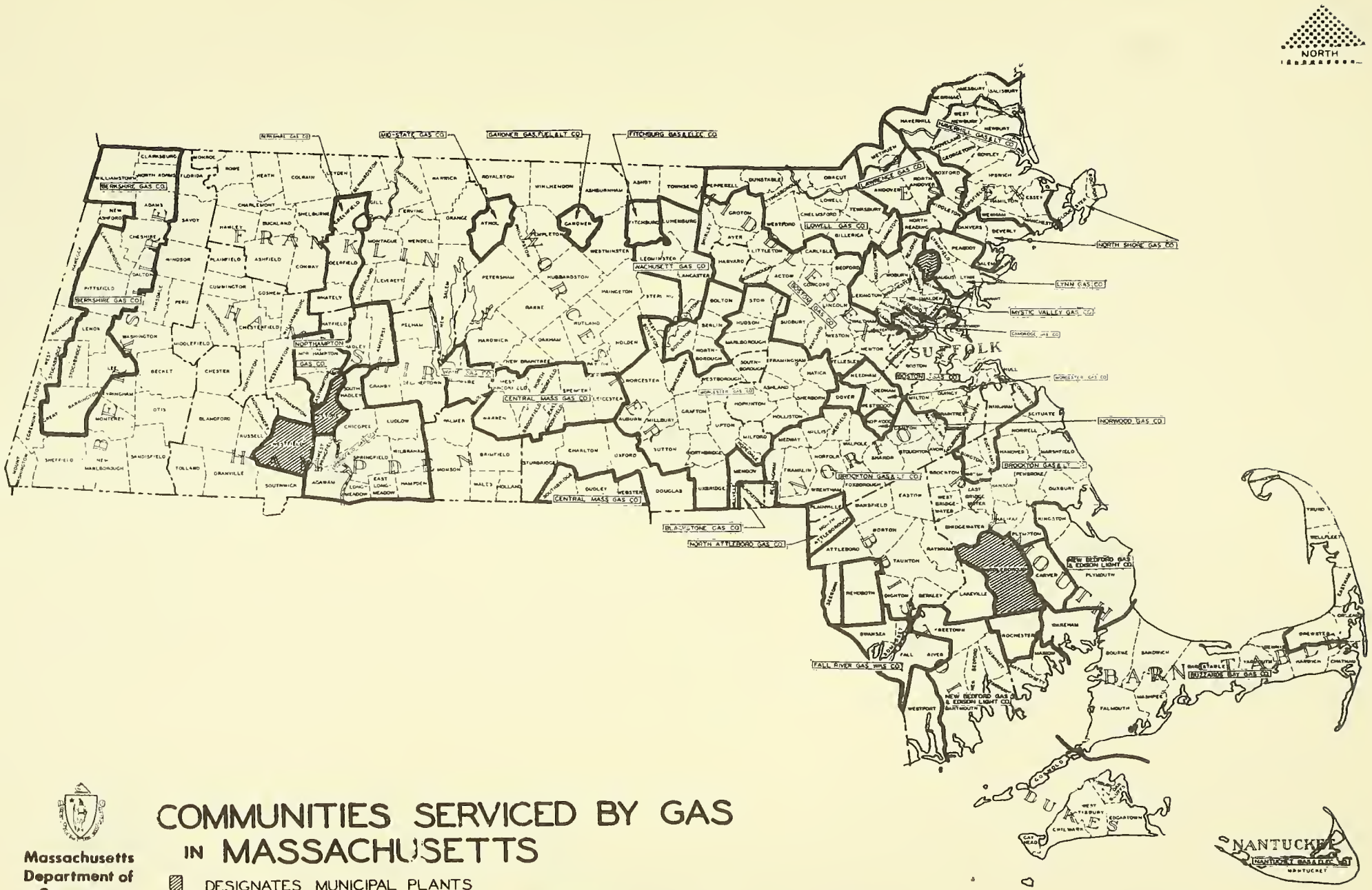
▩ DESIGNATES MUNICIPAL PLANTS

□ DESIGNATES AREA SERVICED BY ADJACENT MUNICIPAL PLANT

10 0 10 20 30

SCALE IN MILES

SOURCE: MASS DEPT. OF PUBLIC UTILITIES JUNE 1965



Massachusetts Department of Commerce and Development

COMMUNITIES SERVICED BY GAS IN MASSACHUSETTS

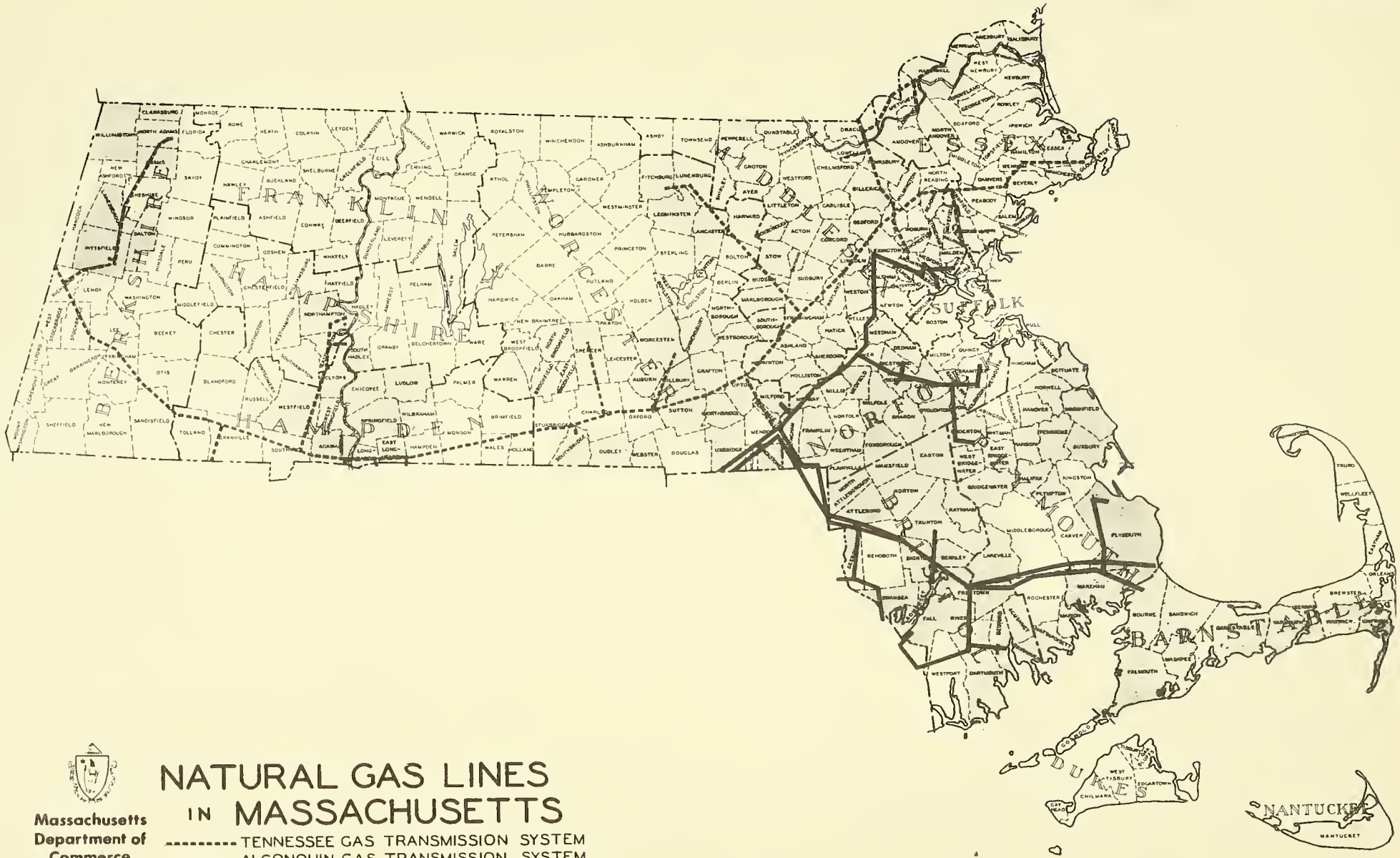
▨ DESIGNATES MUNICIPAL PLANTS

10 0 10 20 30

SCALE IN MILES

SOURCE: MASS. DEPT. OF PUBLIC UTILITIES

JUNE 1965



Massachusetts Department of Commerce and Development

NATURAL GAS LINES IN MASSACHUSETTS

TENNESSEE GAS TRANSMISSION SYSTEM

ALGONQUIN GAS TRANSMISSION SYSTEM

AREAS SERVED

SCALE IN MILES

10 0 10 20 30

SOURCE: DEPARTMENT OF PUBLIC UTILITIES

JUNE 1965

TAXES

MASSACHUSETTS TAXES — Summarized - September 1966

The Massachusetts tax program places the Commonwealth in an excellent position compared to other states. Not only are taxes in Massachusetts more favorable than many industrial states but the reasonable tax program, combined with other outstanding advantages constitutes an industrial climate conducive to economic growth and expansion and has been responsible for the noteworthy progress Massachusetts has achieved in recent years.

In the past, there have been widespread misconceptions concerning the Massachusetts tax program. The complicated method of computation, now eliminated under the new program, made it appear that taxes were high whereas actual case studies reveal that total state and local taxes imposed on manufacturing firms in Massachusetts were comparatively low and the Bay State was, in reality, an excellent location for progressive industry.

This fact was recognized by many corporations which found, upon investigation, that it was good business to establish a plant in Massachusetts. Taxes were not only reasonable, they discovered, but Massachusetts was growing, its economy was becoming more diversified and its reputation for achievement in research was enhancing progress.

The Massachusetts record in industrial development illustrates vividly a tax structure favorable to industry. The fact that Massachusetts is in a strong competitive tax position with other industrial states is apparent from the following:-

(a) Although it is the ninth wealthiest state in terms of per capita personal income in 1965, the per capita tax collections by the State of Massachusetts are less than those of 28 other states. Moreover, Massachusetts facilities are modern and the services provided for business and for citizens are excellent.

(b) Taxes per capita as a percentage of per capita personal income, which evaluates taxes in relation to the average citizen's ability to bear them, are less in Massachusetts than in 42 other states.

(c) With respect to total governmental revenue, per capita (state and local) as a percentage of per capita personal income, the position of Massachusetts is more favorable than that of 43 other states.

(d) Massachusetts does not have taxes disguised as fees. Massachusetts taxes are direct rather than hidden, simplified rather than complex, and reasonable with regard to a citizen's ability to pay.

Source: (a) U. S. Dept. of Commerce, Survey of Current Business, Aug. 1966, Table 2, U. S. Dept. of Commerce, Compendium of State Government Finances in 1965, Derived Comparative Statistics, Table 4.

(b) Same as (a) above. Massachusetts Department of Commerce and Development, Bureau of Research and Statistics.

(c) Same as (b) above.

LOOK AT THE COMPLETE TAX STRUCTURE

Corporation taxes in Massachusetts are often less than those in other industrial states when the total tax load is fully analyzed. In many states separate taxes are levied by the state, county, municipality and school district, whereas in Massachusetts only the state and municipality have authority to make levies.

IN MASSACHUSETTS -

1. STATE TAXES: Taxes at the state level are confined principally to two items:

   A. Corporation Excise

      This tax is based on: (a) net income allocated to Massachusetts and is at the rate of 6.765 and, (b) taxable Massachusetts tangible property, excluding locally taxed property, at the rate of $6.15 per thousand valuation.

      (If the intangible property corporation provisions apply, taxable Massachusetts net worth is substituted for taxable Massachusetts tangible property.)

      Further, Massachusetts now gives a 5-year tax exemption on investment in machinery and equipment having a useful life of 8 years or more situated in Massachusetts. This exemption on investment in machinery and equipment offers an inducement to manufacturers to modernize without incurring a substantial tax increase.

   B. Unemployment Compensation Tax

      Massachusetts operates on an "experience rating" system in determining unemployment tax rates for individual employers. Therefore, unemployment compensation costs in Massachusetts depend to a substantial degree on the employment stability of each individual manufacturer.

2. COUNTY TAXES: NONE

3. SCHOOL TAXES: NONE

4. LOCAL TAXES:

Taxes at the municipal level assessable to a manufacturing corporation are substantially less in Massachusetts than in most states and particularly, the other New England states:

There is a very definite reason for this favorable tax situation in the Commonwealth. Manufacturing corporations taxable under Chapter 63 of the General Laws (Excise Tax) are EXEMPT FROM LOCAL PROPERTY TAXES ON MACHINERY USED IN MANUFACTURE AND ON INVENTORIES (FINISHED PRODUCTS, GOODS IN PROCESS AND SUPPLIES). No such exemption exists under the tax laws of most other industrial states.

A comparison merely of tax rates can be and often is extremely deceptive. A high rate per thousand of valuation may produce a smaller property tax, because of statutory exemptions, such as the machinery or manufacturing corporations than a low rate where there are no exemptions and where all classes of property are included in the taxable base.

LOCAL TAXES

Types of Property of Manufacturing Corporations Subject to Local Taxes* in the Principal Industrial States

State	Real Estate	Tangible Personality#		Intangibles##
		Machinery	Inventories and Supplies	
Alabama	Yes	Yes	Yes	Yes
California	"	"	"	"
Connecticut	"	"	"	No
Georgia	"	"	"	Yes
Illinois	"	"	"	"
Indiana	"	"	"	"
Kentucky	"	"	"	"
Maine	"	"	"	No
MASSACHUSETTS	"	No	No	"
Michigan	"	Yes	Yes	Yes
New Hampshire	"	"	"	No
New Jersey	"	"	"	"
New York	"	No	No	"
North Carolina	"	Yes	Yes	Yes
Ohio	"	"	"	"
Pennsylvania	"	No	No	"
Rhode Island	"	Yes	Yes	"
South Carolina	"	"	"	No
Texas	"	"	"	Yes
Vermont	"	"	"	No
Virginia	"	"	No	No

From this table it will readily be seen that the types of property included in the tax base differ greatly between States.

It will be noted that real estate is the only class of industrial property which is taxed in every state. Industrial machinery attached to buildings is considered as a part of reality and taxed as such in every state except Massachusetts, New York and Pennsylvania.

Inventories are taxed in all of the twenty one states listed, except in Massachusetts, New York, Pennsylvania and Virginia. It will also be noted that Intangibles are now taxed in twelve states.

Massachusetts and New York are the only industrial states listed in the table which confine local taxation to real estate. This fact upsets the illusion which some have that the total of taxes applied to industry are excessive in the Commonwealth when compared to other industrial states.

Footnotes relating to Above Table

*The term "local" is here used to include all tax-levying sub-division of a State; namely, Counties, School Districts, Drainage District, etc. as well as Municipalities.

#In a number of states, the local taxation of Machinery and/or Inventories is permissive - not legally obligatory.

##The actual items which are taxable under the heading "Intangibles", varies between each different state which uses this type of taxation.

MASSACHUSETTS TAXES

TYPE	BASIS - MEASURE	RATES
Business or Manufacturing Corporations	(a) Tangible property not taxed locally, or allocated Net Worth.	(a) Taxable tangibles (excludes locally taxed property) as per Federal adjusted basis - values at $6.15 per $1,000 of valuation
		(plus)
	(b) Income allocated to Massachusetts (including income from leasing of real estate or tangible personal property in Massachusetts).	(b) 6.765% of net income allocated to Massachusetts.
		(or)
		(c) $100 minimum
Domestic and Foreign Corporations engaged exclusively in interstate commerce and not subject to the Corporation Excise Tax.	Income allocated to Massachusetts	3.075% of net income allocated to Massachusetts.
Commercial Banks, Banking Associations, Trust Companies	Net Income	10% (effective January 1, 1966).
Savings Banks, Mass. Hospital Life Insurance Company, Cooperative Banks, Savings and Loan Associations	Net Income	1%
	and	and
	Amount of Deposits	1/20th of 1% of deposits (at the end of each 6 months of the Taxable year, less certain deductions).

MASSACHUSETTS TAXES

TYPE	BASIS - MEASURE	RATES
Insurance Taxes - of Life Insurance Companies - and of Insurance departments of savings banks	Net value of policies in force, or gross direct premiums less return premiums and direct dividends paid or credited to policyholders, whichever is applicable. Domestic life insurance companies filing on the premium basis, report the Massachusetts business and the business of States or countries in which company pays no insurance excise.	¼ of 1% of net value of policies, or 2% of premiums, whichever is applicable. Retaliatory provisions on foreign life insurance companies apply.
-of fire, - marine, and - other insurance companies	(Domestic) Net direct premiums on Massachusetts and on business of States or countries in which company pays no tax, less direct dividends paid or credited to policyholders.	2%
	(Foreign) Net direct premiums on Massachusetts business, less direct dividends paid or credited to policyholders.	2% - Retaliatory provisions apply.
- of underwriting profit on marine insurance imposed on marine or fire and marine insurance companies	On that proportion of the average annual marine underwriting profit for the last three preceding calendar years, which the average Massachusetts net marine premiums on Ocean Marine business for the last preceding three calendar years bears to the average United States net Ocean Marine premiums for the last preceding three calendar years.	5%

MASSACHUSETTS TAXES

TYPE	BASIS - MEASURE	RATES
General Property Tax, Local	Full and fair cash value of real and personal property. (1) All individuals, partnerships, associations and trusts are taxed for personal property. (2) All business and manufacturing corporations are exempt from local taxation upon stock-in-trade or any personal property directly used in the refrigeration of goods, or in the air-conditioning of premises, or in any purchasing, selling, accounting or administrative function. (3) All Corporations which have been classified by the Commissioner of Corporations and Taxation as "manufacturing" are exempt from local taxation upon their machinery. (4) All business Corporations which have not been classified as "manufacturing corporations" are subject to local taxation on their "MACHINERY USED IN THE CONDUCT OF THEIR BUSINESS."	The local tax-rate is determined by each municipality and approved by the State Tax Commission. Increasingly, assessment is based on full and fair cash value (with the tax-rate adjusted proportionately). However, in a limited number of municipalities, the assessment-ratio is still determined, independently, by local assessors. ——— Individual's personal property, $5,000 exemption at domicile.
Real Estate Transfer Tax	Deeds and other instruments of Transfer.	$1.00 for first $100.- $500. of selling price, plus 55¢ for each additional $500. or fraction thereof.
Estate Tax	Value of estate	The amount by which the 80% Federal credit for State death taxes exceeds the amount of inheritance taxes paid to the several States.

MASSACHUSETTS TAXES

TYPE	BASIS - MEASURE	RATES
Inheritance Tax	Full and fair cash value of all property, except both real estate and tangible personal property, located outside of Massachusetts, less certain deductions and exemptions. The most important exemptions are: (1) The single family domicile of the surviving spouse which was held and occupied with the deceased during his life as tenants by the entirety or joint tenants; in the case of a multiple family dwelling so held and occupied, the first $25,000 is exempt; (2) Insurance proceeds made payable to a named beneficiary.	From 1% to 18-3/4%, depending on classification based upon classes of beneficiaries determined by relationship to the deceased.
Personal Income Tax	Income, less exemption of $2,000 for single persons; $2,500 for married persons; $400 for each dependent. Beginning with taxable 1966, an additional $500 income tax exemption for a taxpayer age 65 or over, $2000 for combat zone servicemen. Beginning with taxable 1966, if total taxable income of taxpayer and spouse is $5,000 or less, the taxpayer may claim a personal income tax credit of $4 for himself and $4 for his spouse and $8 for each qualified dependent.	Employment or Business 3.075%; Gains from Sale of Intangibles 7.38%; Interest and Dividends 7.38%; Annuities 1.845%.

MASSACHUSETTS TAXES

TYPE	BASIS - MEASURE	RATES
Limited Sales and Use Tax	On all retail sales of all tangible personal property. Exempt Goods: food; fuel for heating; utilities and telephone; clothing and footwear; prescription medicines, etc.; certain publications for educational and non-profit organizations; livestock or poultry which ordinarily constitute food for human consumption, feed for such animals, fertilizer and plants which produce food for human consumption; certain materials, tools, and fuels which become part of goods to be sold or which are consumed and used directly in agricultural production, in commercial fishing, or in manufacturing goods to be sold; and certain machinery and replacement parts thereof used directly for such activities. An Exempt Use Certificate will be authorized to allow the tax-free purchase of: (1) machinery and replacement parts used directly in an industrial plant in the manufacture, conversion or processing of tangible personal property to be sold; and (2) materials, tools and fuel, or any substitute, which becomes an ingredient or component part of tangible personal property to be sold, or which are consumed and used directly in an industrial plant in the process of the manufacture of tangible personal property to be sold. Also Exempt: (since already subject to separate excise taxes) are: fuel for motor vehicles and aircraft, restaurant meals, cigarettes, and alcoholic beverages. --- Vendors allowed 2% compensation. --- Effective on and after April 1, 1966	3% of the vendor's gross receipts. Vendor reimbursed by purchaser. Complementary 3% storage, use, or other consumption tax on the sales price. --- All sellers of goods or "vendors" (for example, wholesalers, etc.) must either collect the 3% Sales Tax from the purchaser of their goods or obtain a Resale Certificate from the purchaser which certifies that this purchaser is going to resell these goods. --- Tax Collection Schedule Amount of Sale — Amount of Tax $0.01 to $0.18 — No Tax 0.19 to 0.38 — 1 cent 0.39 to 0.78 — 2 cents 0.79 to 1.18 — 3 cents

MASSACHUSETTS TAXES

TYPE	BASIS - MEASURE	RATES
Room occupancy excise tax	On and after April 1, 1966, on any room or rooms in - (1) a hotel (2) a lodging home which lets to 5 or more persons, or (3) a motel; for the first 90 consecutive days or less of each occupancy, and if the total room-rent is $2. per day or more.	5% of the total amount of the rent for each occupancy.
Meals Excise Tax	Amount charged for meals	5% on meals of $1.00 or more.
Alcoholic Beverages and Alcohol Excise Tax	- Malt beverages - per 31 gallon barrel	$2.40 per barrel
	- Cider	0.02 per wine gallon
	- Still wine (containing between 3% and 6% alcohol) including vermouth	0.40 " " "
	- Sparkling wines and champagne	0.50 " " "
	- All alcoholic beverages containing 24% or less of alcohol	0.80 " " "
	- All alcoholic beverages containing between 24% and 50% of alcohol	2.95 " " "
	- All alcoholic beverages containing more than 50% of alcohol - per proof gallon	2.95 " proof gallon
	- Alcohol in one wine gallon or less container	2.95 per proof gallon
	Effective on and after March 3, 1966	
Alcoholic Beverages Receipt Tax	Certain Corporations and Organizations	1/2 of 1% of gross receipts on alcoholic beverage sales.

MASSACHUSETTS TAXES

TYPE	BASIS - MEASURE	RATES
Cigarette Tax	Number of cigarettes sold (Effective on and after March 3, 1966)	5mills per cigarette (10¢ per package)
Gasoline Tax	Per gallon	6½ ¢ per gallon
Motor Vehicle Excise Tax	Value of automobile not exceeding 90% of manufacturer's list price in year of manufacture, scaled to 10% in 5th. and succeeding years.	$66. per $1,000. of value
Employment Security Contribution	Employers only pay Tax; first $3,600 wages taxable for each covered worker of subject employer; contribution-rate-schedules based on merit rating system; 8schedules with rates ranging from .5 to 4.1. One schedule (with 15 rates) in effect each year, depending on State Unemployment Fund balance on September 30 of previous year.	Schedule D in effect in 1966 - 1.1% - 3.9%

NEW HOME BUILDING IN MASSACHUSETTS

In the years 1954-1964 approximately 275,319 new dwelling units of family accommodations were built in Massachusetts. The following Table I represents our estimates of the total year-around dwelling units undertaken (excluding seasonal cottages and apartments created by alterations to existing buildings).

TABLE I. ESTIMATE OF NEW DWELLING UNITS

Population Size Class**	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Under 2,500	2045	1179	1024	998	853	803	783	835	876	1109	1244
2,500-4,999	4166	3589	3620	2316	2448	1631	1917	1630	1973	2029	2237
5,000-9,999	4897	5641	4728	3072	3346	3097	3266	3314	3711	3785	3525
10,000-14,999	2675	4683	4031	2633	2564	4812	4085	4057	3909	4742	4948
15,000-24,999	4262	3675	3175	2513	2664	3547	3773	3790	4183	4327	3872
25,000-49,999	3615	4597	4058	3249	3670	5065	4313	5708	5713	4969	5424
50,000-99,999	1828	2821	2805	2089	2420	3055	2975	3895	3764	3640	3997
100,000-Over*	1990	2311	1710	1198	1009	879	1010	1398	1387	1324	1054
Boston	615	800	542	376	573	575	1414	1514	2254	3830	9433
	26093	29296	25693	18444	19547	23464	23536	26141	27770	29755	35734

*Excluding Boston

**1950 Census used for 1954, 1955 Census used for 1955 thru 1958, and 1960 Census used for 1959 thru 1964.

TABLE II. 1964 TRENDS

From the table below it will be seen that towns of 2,500 to 4,999 again led in the number of new dwellings per 1000 residents, in 1964. The towns of under 2,500 were second, municipalities 5,000 to 9,999 came next and fourth the 10,000 to 14,999 group.

Size Class	Number of Municipalities	1960 Population	Units Permits Reported	Units per 1000 Residents	Est. Units Built**
Under 2,500	111	121,974	1,269	10.40	1,244
2,500-4,999	60	216,439	2,283	10.57	2,237
5,000-9,999	59	408,907	3,597	8.79	3,525
10,000-14,999	47	574,696	5,049	8.78	4,948
15,000-24,999	26	492,561	3,951	8.01	3,872
25,000-49,999	28	957,829	5,535	5.78	5,424
50,000-99,999	15	1,108,988	4,079	3.68	3,997
100,000-Over*	4	571,243	1,075	1.88	1,054
Boston	1	697,197	9,929	1.42	9,433
Total	351	5,149,834	36,767	7.14	35,734

*Excluding Boston

**Deduction of 2% for permits Boston reduced by 5%

HOUSING - U. S. CENSUS 1960

Of the 1,690,998 housing units in Massachusetts, 1,534,985 were occupied and 45,849 or 2.7% vacant and available for occupancy. Of the occupied units 55.9% were owner-occupied and 44.1% were rented.

TYPE OF STRUCTURE

	Number	Percent of Total State
1 Unit	917,275	54.3%
2 Units	276,783	16.4
3 & 4 Units	278,113	16.4
5 or more Units	218,689	12.9

NEW DWELLING UNITS*

Year	Number
1950-1954	140,535
1955-1959	116,444
1960	23,536
1961	26,141
1962	27,770
1963	29,755
1964	35,734

AGE

Year Built	Units	Percent
1950-March 1960	307,879	18.2%
1940-1949	124,801	7.4
1939 or earlier	1,258,270	74.4

PERSONS PER UNIT

Persons	Units	Percent in State
1 person	218,107	14.2%
2 persons	414,598	27.0
3 persons	297,266	19.4
4 persons	267,180	17.4
5 persons	177,152	11.5
6 persons or more	160,682	10.5
Median persons per unit		3.0

CONDITION

	Percent State
Sound	86.9%
Deteriorating	10.7
Dilapidated	2.4

VALUE OF ONE-DWELLING-UNIT STRUCTURE

	Number	Percent of State
Under $5,000	20,813	3.1%
$5,000-$9,000	123,486	18.4
$10,000-$14,900	253,654	37.8
$15,000-$19,900	161,530	24.1
$20,000-$24,900	57,536	8.6
$25,000 or more	53,553	8.0
Median Value	$13,800	

MONTHLY RENTS PLUS UTILITIES AND HEAT

	Percent of State
Under $40	6.4%
$40 to $59	21.1
$60 to $99	55.0
$100 & over	17.5
Median Rent	$75.00

*From building permits issued

LIVABILITY

Good medical and health services are important, too, and so are good schools and adequate religious facilities. Massachusetts provides them all better than any other industrial state.

According to the 1960 Census of Population, Massachusetts had the second highest proportion of people in these professional services than any other leading industrial state.

	% of Labor Force in Professional Occupations
California	13.7%
Massachusetts	12.8
New York	12.5
New Jersey	12.4
Michigan	11.5
United States	11.2
Ohio	10.9
Illinois	10.7
Pennsylvania	10.7
Wisconsin	10.0
Indiana	9.8

We like it here - and so does everyone else. The 1960 Census of Population showed that Massachusetts had an exceptionally stable population. This is how we compare with other leading industrial states:

	Percent of persons living in the same place as one year prior to the date of Census
Pennsylvania	82.7%
Massachusetts	80.9
New York	80.9
New Jersey	80.1
Wisconsin	79.0
Michigan	78.3
Illinois	76.2
Indiana	75.9
Ohio	75.8
United States	74.6
California	65.9

Source: U. S. Census of Population, PC (1) 1C U.S.

MASSACHUSETTS CLIMATE

Studies by Professor Ellsworth Huntington of Yale reveal that climate affects mental energy. He has determined that mental energy is highest in a mean day and night temperature of 40 degrees. There is a gradual fall-off to about 70 degrees, above which the drop is abrupt. Mean annual temperature in Massachusetts ranges from 43° to 47°.

Writing on the climate of New England, Charles E. Artman, former director of the U. S. Bureau of Foreign and Domestic Commerce, said:

"Lacking the enervating heat and humidity of more southern regions, the year-round New England climate is stimulating to exertion, conducive to health and vitality, and favorable to industrial enterprise."

A factor frequently overlooked is emphasized by James K. McGuire, climatologist for the Northeast Area, U. S. Weather Bureau. That is precipitation, and the presence of an adequate water supply for industrial purposes. Due to climatic conditions Massachusetts has regular and evenly divided precipitation year-round from 2.5 to 3.9 inches per month totaling 40 to 42 inches per year. He also points out the important industrial asset of sufficient ground water supply in virtually all parts of the state.

Division of Research.

RESEARCH OUR RICHEST RESOURCE

Research is a major industry in Massachusetts. In addition, the 931 industrial research laboratories, employing over 31,000 scientists, engineers and technicians, provide a dynamic force of ingenuity and initiative which enhances industrial progress in the Bay State. Many of the pioneering achievements for which Massachusetts is world famous were developed in our industrial research laboratories. Moreover, major industries, in all sections of the country have found Massachusetts an ideal location for the establishment of their research laboratories.

The educated and inquiring mind develops best in an environment that provides the advantages of great schools and libraries, a mature culture, stimulating climate, historic charm and livability. The ease of communication and association with other scientific minds stimulates and promotes a cross fertilization of ideas, further developing and encouraging abilities and interests.

Massachusetts has for over 300 years carefully nurtured this "Climate of Creativity" preserving the accumulated learning of the past to provide the paths to the future. The graduates of the colleges and professional schools in the state prefer to remain in Massachusetts because of the advantages and associations in the area, thereby adding to the capability of our pre-eminent scientific organizations.

In a survey of Massachusetts' research facilities made by Dr. Joseph Zimmerman, Professor of Economics, Government and Business at Worcester Polytechnic Institute, under the sponsorship of this Department, the following information was reported:

The research directors of 27 major research-oriented manufacturing companies were interviewed. Collectively, the directors cited an imposing list of reasons why Massachusetts is the ideal location for research activities. The information was obtained voluntarily, each director listing both the disadvantages and the advantages of operating in Greater Boston. As the report noted, "Each director cited a long list of advantages and few or no disadvantages." But the interesting fact was that all but one of the research directors who did cite disadvantages considered them so minor in nature that they would not deter the building of a new plant in Massachusetts. Here is a brief list of the advantages these experienced and highly-trained men found in the Greater Boston area:

a. Unexcelled colleges and universities with seminars, colloquia, symposia consultants, special courses, basic research and laboratory facilities for use of industry.

b. Technical schools which turn out highly competent technicians.

c. Evening educational facilities on both the technical and graduate level which permit the upgrading of personnel and make the area more attractive to employees.

d. A supply of engineers and scientists on hand because of the concentration of educational institutions and the livability of the area. (Many engineers and others will take less pay in order to be in Greater Boston.)

e. A supply of highly skilled and efficient workers on all levels.

f. A complex of highly skilled consultants readily available to assit industry whenever the need arises for their specialized knowledge.

g. Industrial research laboratories which can handle any technical problem, making it unnecessary for a company to establish a costly and seldom used laboratory and staff.

h. Superb libraries, including outstanding technical libraries, which means firms do not need to invest money in an extensive library of their own to acquire this information. (Greater Boston libraries contain 17,000,000 volumes.)

i. A stimulating intellectual climate which breeds creative thinking.

j. Proximity to Air Force, Army and Navy research centers - a particularly important advantage for firms holding defense contracts.

k. The concentration of suppliers, machine shops and model facilities in Greater Boston is an important advantage.

l. The quality and quantity of water in the area saves the cost of purification encountered in other parts of the country. The availability of an ample supply of water is one of the utmost importance to many firms.

m. Excellent air, bus and rail facilities were mentioned by several research directors as advantages.

Other advantages mentioned were a stimulating climate, recreational facilities an excellemt public school system and livability. One research director coined the phrase "Permanent Established Living" to sum up the livability of the area. Although the report was concerned solely with industrial research, the rest of the state's creative complex is well worth mentioning. Exciting achievements are being recorded in science, medicine, agriculture, forestry and economic development.

EDUCATION IN MASSACHUSETTS

In Massachusetts education is one of its most outstanding assets and an integral part of its livability. From the state's earliest beginning, education has been of deep concern to its citizens. Since 1635 Massachusetts has more firsts in the field of education than any other state in the nation. The effectiveness of this traditional concern can be measured in some degree by the state's excellent reputation in many fields, such as medical and industrial research, insurance, investment banking, commerce and a highly technical industrial complex.

Education has also been responsible for the great cultural advantages in this state. Our museums, symphony orchestras, historical societies, art centers and festivals, and adult education programs provide compact facilities for learning in a greater degree than many other areas.

Responsibility for supervising public education rests with the Department of Education, an executive branch of the State government. Local rule largely determines, other than specific basic subjects, the curriculum of the schools. There is, consequently, some variation in education throughout the state. With over 300 years of experience and interest, the state offers an excellent, well-established educational program.

Institutions of Higher Education

Massachusetts has 117 accepted institutions of higher education, including:

35 with 2 years of college level (includes junior colleges)

37 granting bachelors' or first professional degrees

29 granting masters' or second professional degree

15 granting Doctor of Philosophy and equivalent

Degrees Granted in Massachusetts Schools in 1964-1965

Bachelors			Masters			Doctorates		
Male	Female	Total	Male	Female	Total	Male	Female	Total
13,389	8,783	22,172	4,273	1,923	6,196	972	110	1,082

The Percentage of Massachusetts Graduates to the Nation Total (1963-1964)

	Bachelors	Masters	Doctorates
Engineering	4.9% (1,709)	7.9% (860)	11.1% (188)
Mathematics	4.1% (750)	4.1% (137)	9.4% (49)
Chemistry	3.8% (370)	6.2% (97)	6.1% (78)
Physics	6.7% (331)	5.7% (105)	9.3% (72)

Source: Earned Degrees Conferred, 1963-1964 by U. S. Department of Health, Education and Welfare

Institutions of Higher Education in the United States
By the Highest Level of Offering
(First Ten States)

	1964-1965 #1					Population over 25 Years of Age - 1960 (2)		
	Schools	I	II	III	IV	V	Percent Completed High School	Percent Completed College or more	Median No. School yrs. Completed
Massachusetts	117	35	37	29	15	1	28.8%	8.8%	11.6
California	178	75	38	51	13	1	28.3%	9.8%	12.1
Illinois	116	32	39	31	12	2	24.5%	7.3%	10.5
Michigan	74	25	30	15	3	1	26.0%	6.8%	10.8
Missouri	65	20	33	8	4	-	22.6%	6.2%	9.6
New York	191	62	50	48	29	2	24.0%	8.9%	10.7
Ohio	77	7	45	14	10	1	27.3%	7.0%	10.9
Pennsylvania	131	17	65	33	15	1	25.5%	6.4%	10.2
Texas	97	38	22	24	13	-	21.8%	8.0%	10.4
Wisconsin	63	25	26	8	3	1	26.2%	6.7%	10.4

#1 SOURCE - Education Directory, 1965-1966, Part 3, U.S. Department of Health, Education and Welfare, and Massachusetts Department of Commerce and Development

I - At least a 2-year program of college level studies
II - Bachelor's or first professional degree
III - Master's or second professional degree
IV - Doctor of Philosophy or equivalent degree
V - Other

#2 SOURCE - U. S. Summary General Social and Economic Characteristics, 1960- Bureau of the Census, U. S. Dept. of Commerce

Engineering Degrees Granted in 1963-1964

	Ph. D. 's		Masters		B. S.	
1.	California	243	California	1,580	New York	3,086
2.	Massachusetts	188	New York	1,418	California	2,766
3.	Illinois	178	Massachusetts	860	Pennsylvania	2,674
4.	New York	143	Pennsylvania	716	Michigan	2,069
5.	Pennsylvania	124	Illinois	549	Indiana	1,815
6.	Michigan	100	Michigan	500	Massachusetts	1,709
7.	Indiana	84	Texas	365	Texas	1,555
8.	Iowa	80	Indiana	361	Illinois	1,526
9.	Ohio	70	Ohio	324	Ohio	1,400
10.	Texas	66	Iowa	159	Iowa	540

The States listed above are the ten leading States.
SOURCE: Earned Degrees Conferred, 1963-1964, by U. S. Department of Health, Education and Welfare.

INSTITUTIONS OF HIGHER EDUCATION

LEVEL AND TYPE OF OFFERING

Level of Offering

I A two or three year program of college-level studies.
II Bachelor's degree program (traditionally four-year) or first professional degree program which entitled the graduate to enter the profession indicated.
III Program leading to the master's degree (the customary first graduate degree) or to a professional degree earned after the first professional degree in the same field.
IV Program leading to the doctor of philosophy or equivalent degree.
V Degrees granted by cooperating universities.

Type of Program

a Terminal-occupational program designed to prepare directly for an occupation and not intended to prepare for advanced study.
b Liberal arts program.
c Both liberal arts and terminal-occupational programs.
d Primarily teacher preparatory program.
e Both liberal arts and teacher preparatory programs.
f Liberal arts, teacher preparatory, and terminal-occupational.
g Professional or technical program (excluding teacher preparatory).
h Professional or technical and teacher preparatory programs.
i Professional or technical and terminal-occupational programs.
j Liberal arts program with one or two professional schools.
k Liberal arts program with three or more professional schools.

NUMBER OF INSTITUTIONS BY LEVEL OF OFFERING

I	----------	35
II	----------	37
III	----------	29
IV	----------	15
V	----------	1
UNK	----------	1

SOURCES: - FACTS by N. E. Board of Higher Education
- PORTALS TO CAREERS by Mass. Dept. of Education
- EDUCATION DIRECTORY, PART 3 by U. S. Dept. of HEW

INSTITUTIONS OF HIGHER EDUCATION

Alphabetical Listing

Table I

Name	Level & Type
American International College	III f
Amherst College	III b
Andover Newton Theological School	III g
Anna Maria College for Women	II e
Assumption College	III b
Atlantic Union College	II f
Babson Institute of Business Administration	III g
Bay Path Junior College	I c
Becker Junior College	I a
Bentley College of Accounting and Finance	II i
Berklee School of Music	II h
Berkshire Christian College	II h
Berkshire Community College	I c
Boston College	IV k
Boston Conservatory of Music	III h
Boston University	IV k
Bradford Durfee College of Technology	II g
Bradford Junior College	I b
Brandeis University	IV j
Bristol Community College	I c
Burdett College	I i
Calvin Coolidge College and Portia Law School	II j
Cambridge Junior College	I b
Cambridge School of Business	I a
Cape Cod Community College	I c
Cardinal Cushing College	II f
Clark University	IV e
College of the Holy Cross	III b
College of our Lady of the Elms	II e
College of St. Joseph	II b
College of the Sacred Heart	II b
Curry College	II e
Dean Junior College	I c
Eastern Nazarene College	II e
Emerson College	III f
Emmanuel College	II e
Endicott Junior College	I f
Episcopal Theological School	II g

Name	Level & Type
Fisher Junior College	I c
Forsyth School of Dental Hygienists	I g
Franklin Institute of Boston	I a
Garland Junior College	I f
Gordon College	II j
Greenfield Community College	I c
Hampden College of Pharmacy	II i
Hampshire College*	
Harvard University	IV k
Hebrew Teachers College	III e
Holyoke Community College	I c
Holy Cross Greek Orthodox Theological School	II g
LaSalette College and Seminary	II h
Lasell Junior College	I c
Leicester Junior College	I c
Lesley College	III d
Lowell Technological Institute	IV i
Marist College and Seminary	II b
Massachusetts Bay Community College	I c
Massachusetts College of Art	II h
Massachusetts College of Optometry	II g
Massachusetts College of Pharmacy	IV g
Massachusetts Institute of Technology	IV k
Massachusetts Maritime Academy	II g
Massasoit Community College	I c
Merrimack College	II j
Mount Alvernia College	II e
Mount Holyoke College	III e
Mount Ida Junior College	I c
Mount Wachusett Community College	I c
New Bedford Institute of Technology	III g
New England Conservatory of Music	III h
Newton College of the Sacred Heart	II b
Newton Junior College	I f
Nichols College of Business Administration	II g
North Shore Community College	I c
Northampton Commercial College	I a
Northeastern University	IV k
Northeastern University Burlington Campus	IV k
Northern Essex Community College	I c
Perry Normal School, Inc.	I d
Pine Manor Junior College	I b

*Chartered December 1965--first enrollment expected in fall of 1969

INSTITUTIONS OF HIGHER EDUCATION continued

Name	Level & Type
Queen of Apostles College and Seminary	II b
Quincy Junior College	I c
Quinsigamond Community College	I c
Radcliffe College	II b
Regina Coeli College	II e
Regis College	II e
Regis College Framingham Campus	II e
St. Columban's College and Seminary	II j
St. Hyacinth College and Seminary	II c
St. John's Seminary	III g
St. Stephen's College	IV g
School of the Museum of Fine Arts	III h
Simmons College	III k
Smith College	IV j
Southeastern Mass. Technological Institute	III g
Springfield Technical Institute	I a
Springfield College	IV h
State College at Boston	III d
State College at Bridgewater	III d
State College at Fitchburg	III d
State College at Framingham	II d
State College at Lowell	II d
State College at North Adams	III d
State College at Salem	III e
State College at Westfield	III d
State College at Worcester	III d
Stevens Business College	I a
Stonehill College	II e
Suffolk University	III j
Tufts University	IV k
University of Massachusetts	IV k
University of Massachusetts Boston Branch	IV k
Wellesley College	III b
Wentworth Institute	I i
Western New England College	III g
Wheaton College	II b
Wheelock College	III d
Williams College	III b
Woods Hole Oceanographic Institute	V g
Worcester Junior College	I c
Worcester Polytechnic Institute	IV g
Worcester Industrial Technical Institute	I

ATOMIC ENERGY

A number of Massachusetts firms are engaged in nuclear activity--some of the areas are indicated below:

1. In Massachusetts, nearly 600 U. S. Atomic Energy Commission licenses (isotope, special nuclear and source material types) are held by individuals or organizations.

2. 254 U. S. Atomic Energy Commission licenses were issued to Massachusetts individuals and organizations in the period February 1956 to November 1962.

3. Two of the seventeen firms engaged in uranium fabrication in the United States are located In Massachusetts.

4. One of the seven United States concerns manufacturing medical radioisotope teletherapy machines is located in Massachusetts.

5. Two of the six organizations licensed by the U. S. Atomic Energy Commission to conduct commercial services involving the disposal at sea of low activity packaged wastes are located in Massachusetts.

6. Four critical and two subcritical reactors are now in operation in Massachusetts. They are in use at M. I. T., Worcester Polytechnic Institute, Watertown Arsenal and the Yankee Atomic Electric Company with the subcritical reactors at Northeastern University and the University of Massachusetts. A critical reactor is under construction at Lowell Technical Institute.

7. Massachusetts built and launched the world's first nuclear-powered cruiser and destroyer leader. Two nuclear-powered submarine contracts have been awarded to a Massachusetts firm.

8. The Commission on Atomic Energy of the Commonwealth was created by legislation and is composed of outstanding representatives of industry, labor, and the nuclear sciences. It has as its purpose the establishment and maintenance of a broad public relations and industrial development program to stimulate and encourage atomic research and development in the Commonwealth.

MASSACHUSETTS WATER

The availability of water in Massachusetts has been one of the most important factors in the industrial development of this Commonwealth. We have been fortunate in having an abundance of soft water of naturally good quality for domestic water supply purposes, industrial water usage, the development of water power, and for recreational and agricultural purposes.

The average annual rainfall is 43 inches compared to the national average of 23 inches. In a wet year it may be as high as 60 inches while in a dry year as low as 30 inches. More fortunate is the fact that the rainfall is uniform throughout the entire year. Approximately 45 to 55 per cent of the rainfall flows to the sea in our 4, 320 miles of streams.. However, Massachusetts is doubly blessed for it receives the stream flow of the Merrimack and Connecticut Rivers resulting from rainfall in Vermont and New Hampshire. There are 254 square miles of water surface in the State. This water area is made up of about 1, 215 Great Ponds (a Great Pond is a nautral pond with an area of more than 10 acres) having an aggregate area of about 153 square miles, the remaining area consisting of small ponds of less than ten acres and artificial reservoirs.

The 273 municipalities having public water supply systems, which are about 90 per cent municipally owned, use approximately 600 million gallons per day. About 35 per cent of this consumption is supplied by the Metropolitan Water District. The District wholesales water to 30 cities and towns in the Boston Metropolitan Area and six municipalities outside of the area, extending as far west as the Connecticut River.

Fortunately the safe yield of the present sources of water supply is about 800 million gallons per day. However, because of the continued increase in municipal water consumption, the Massachusetts Water Resources Commission is studying the water resources of the various river valleys, including the ground water resources, to meet future needs.

Mr. Clarence I. Sterling - Director and Chief Engineer
Massachusetts Water Resources Commission

PLANNING

Much of the success and growth of modern commercial enterprise rests largely on systematic advance planning. However, the function of planning is not limited to successful private corporations. In Massachusetts, 298 local governments have established planning boards, an indication of the progressive attitude of the State's citizens toward the future of their communities.

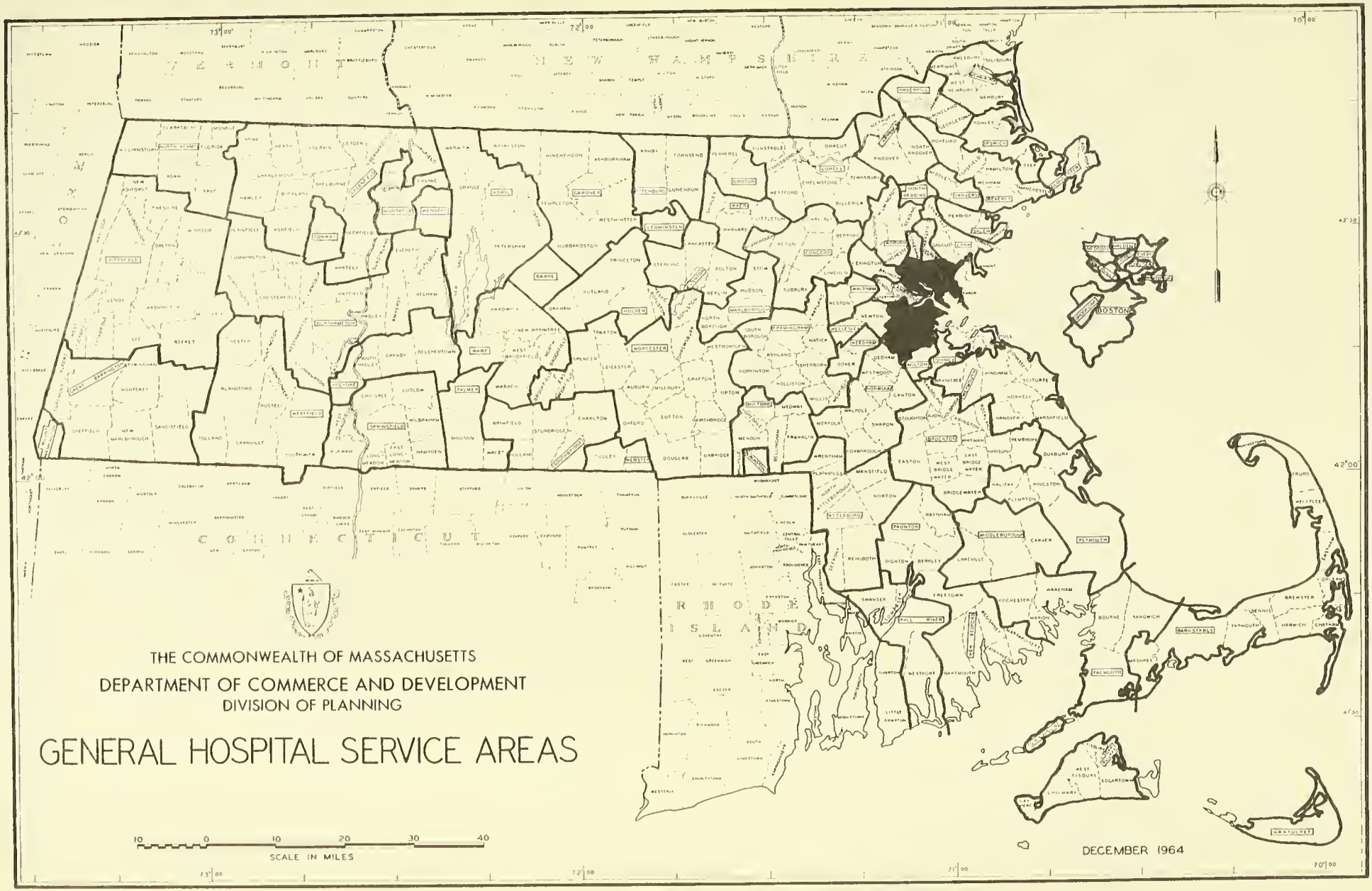
These local planning boards serve 85% of the Commonwealth's 351 cities and towns and approximately 98% of its population. Since 1957, with federal assistance, 200 communities have employed professional planners to formulate comprehensive master plans to guide their growth.

Also note-worthy is the existence of nine regional planning agencies, many of which are now making transportation studies and regional comprehensive plans in cooperation with state and federal agencies.

On the State level, the Planning Division of the Department now has two bureaus--the Bureau of Planning Assistance and the Bureau of Area Planning. The latter will prepare a comprehensive state plan to ensure the economic stability and growth of the Commonwealth.

To the firm contemplating a manufacturing plant or research complex, local, regional and state planning can provide essential background information and assistance for sound development. A long-range public plan for both local and area development can be of incalculable assistance to the industrialist by providing technical data on such diversified matters as population, land use, water supply, sewage disposal, commuting patterns and circulation.

Since sound economic and industrial development must take into account all of the factors that interact to provide its environment, the extensive planning programs in process in Massachusetts can do much to provide assistance for such development.


THE COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF COMMERCE AND DEVELOPMENT
DIVISION OF PLANNING
GENERAL HOSPITAL SERVICE AREAS
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SCALE IN MILES
DECEMBER 1964
BOSTON

MONOGRAPHS

Monographs are available for each of the three hundred and fifty-one cities and towns in the COMMONWEALTH plus the ten major metropolitan areas and fourteen counties.

These profiles present up-to-date statistical factual data on population, housing,economic base, employment and payrolls, municipal finance, public education, transportation planning, industrial development and utilities for each municipality or region.

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Massachusetts

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